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COLOMBO MUNICIPALITY.

Administration Report

1908.

Public Health Department.

REPORT BY WM. MARSHALL PHILIP, M.B., D.P.H.,

Medical Officer of Health.



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No. 154.

Colombo, May 10, 1909.

ANNUAL REPORT, 1908.

SIR

I HAVE the honour to submit the Report of the Public Health Department for the year, 1908.

Section I.

General.

2. **Public Health—General.**—The health of the population as a whole was worse than usual, the death-rate being 36·7 per 1,000, as against the average for the previous 10 years of 34·0 per 1,000, an increase of 2·7. With the exception of 1906 this is the highest death-rate recorded during the last 11 years. This rise in the death-rate was mainly due to the increase in the mortality from Pulmonary diseases, chief amongst which being Pneumonia which alone caused 780 deaths, representing a rate of 4·33 per 1,000, an increase of 1·45. Phthisis which for years has shown such a steady increase in mortality was not quite so high as in 1906 and 1907 but its rate in 1908 was nevertheless 0·61 per 1,000 above the average of the previous 10 years. Diarrhoeal diseases and Fevers on the other hand had a lower rate than the average. If reference is made to Diagram I. it will be seen that the general tendency of the death-rate from all causes during the last 11 years, (represented by the broken line A.B.) has been distinctly upwards, while Diagram II. shows that this has been mainly due to the progressive rise in the mortality from Pulmonary and Diarrhoeal diseases, but during the last two years Pulmonary diseases have been mainly responsible.

Compared with the Pulmonary and Diarrhoeal groups of diseases the Fever group, which includes Typhoid Fever, occupies quite a secondry place as a cause of the general death-rate, (*vide* Diagram II.)

In addition to the *progressive* rise it will be seen that there have been one or two sudden *abnormal* rises or exacerbations in the Pulmonary mortality, *viz.*, in 1901, 1906 and 1908.

These exacerbations appear to have been closely associated with the climatic conditions which prevailed at the time, notably sudden drops in the temperature accompanying the onset of the monsoons after a prolonged period of dry, hot, dusty debilitating weather. This appears at all events to have been the case with the 1906 rise which has been dealt with in Report No. 384 of 1907.

The progressive rise (indicated by the broken lines A. B., in Diagrams II. and III.) on the other hand although probably in some measure also associated with the climatic conditions (note the steadily falling rainfall curve) has without doubt been associated with many other factors, chief amongst which is the steady increase of the population and all that this implies in a town like Colombo where the erection of new dwellings has not kept pace with the growth of the population, and where an artificial water supply has had to be introduced without provision having been made for the removal of liquid waste, or the protection of houses from damp. The effect of these conditions has necessarily been gradual and does not account for the sudden abnormal temporary rises in the death-rate such as the one observed in 1906.

If the rising mortality not only from Pulmonary diseases but also from other diseases is to be checked, there should be no delay in extending the sewers to all parts of the town so as to afford a means for the ultimate disposal of the sullage, which is steadily increasing in quantity with the growth of the population and which is being poured out into the soil *in the immediate neighbourhood of dwellings*.

It is also most important that legal powers should be granted to enable the Council to effectively control the erection of new buildings, and to require the improvement of insanitary existing buildings in the matter of lighting, ventilation, &c.

Pending the completion of the sewerage of the town, much good might be effected, as was pointed out in the Annual Report for 1907, by granting powers to compel property owners to pave the floors, and back yards and lanes in the immediate vicinity of dwellings, and thereby afford protection to the occupants from the evil effects of exposure to damp, and to polluted ground air. I have frequently noticed in houses with unpaved floors that immediately after a heavy downpour of rain the atmosphere in the house becomes particularly foul, which is to a large extent the result of the sudden expulsion from the ground of highly polluted ground air by the rapidly rising ground water. The provision of an impervious floor would in a great measure prevent this, but unless legal powers are granted, practically nothing can be done to effect it.

In connection with the evil effects of dampness, it must be remembered that the great bulk of the sullage in Colombo consists primarily not of polluted rain-fall, but of polluted Labugama water, the supply of which is independent of the rain-fall in Colombo, and the polluted waste of which is concentrated in the immediate vicinity of the dwellings. An abnormally dry year therefore makes on the one hand practically no difference as regards the amount of sullage which is produced and poured out into the soil around the dwellings, but on the other hand it entails an increased amount of dust, and a lack of general purification of the atmosphere, and therefore a series of dry years such as have been experienced, combined with the absence of means for the disposal of sullage, afford ideal conditions for the production of a high Pulmonary mortality such as exists in Colombo.

The excess of the demand for house-room over the supply has been taken advantage of by landlords to gradually raise the rents, which in turn has led to a steadily increasing and practically irrepressible tendency towards overcrowding. In dealing with cases of overcrowding one is frequently met with the answer that it is impossible for the head of a large family to take a more commodious house, because until rents become cheaper or incomes larger he cannot afford to do so. This is an answer which cannot readily be set aside. Matters might however be improved by the better lighting and ventilating of the houses such as they are, and with this in view a special effort was made last year to get owners of tenements to put in skylights, windows and ventilators. Over 2,000 ventilators, and more than 1,000 windows and skylights were thus inserted last year at the instance of this Department, (*vide* Table LXIII. para. 44). Some of the Inspectors have, owing either to the greater scope in their Wards, or to their greater energy, or to their greater influence with the people, been more successful than others in these matters; but this useful section of the work cannot be satisfactorily prosecuted until more definite legal powers are granted.

Although the Fever group as a whole (which includes Typhoid) caused less mortality in 1908 than the average for the previous 10 years, Typhoid Fever still continues to attract more attention and to cause greater anxiety in the minds of the public than any other disease. This is largely due no doubt to the fact that Typhoid above all other diseases is responsible for the sickness and mortality amongst Europeans. During 1908 for instance it caused 21·9 per cent of the total European deaths (*vide* Table XVI). Not only so, but as has been explained in my Report upon “ Fevers in Colombo,” the Typhoid Fever statistics are most misleading, and without a careful analysis one would readily be led to believe that this disease had been greatly on the increase of late years, not only amongst Europeans, in whose case the increase is apparently a genuine one, but also amongst the other races.

An examination of the statistics however shows that the apparent increase amongst the indigenous races is for the most part, if not entirely fallacious. No better illustration of this could be afforded than the case of the Malays as shown in the following comparative statement in which their Fever mortality last year is contrasted with that of 10 years ago :—

MALAY FEVER RATES IN 1899 AND 1908.

		1899.		1908.	Increase or Decrease.
Typhoid Fever	...	0·00	...	1·83	... +1·83
Simple Continued Fever	...	2·79	...	0·91	... —1·88
Remittent Fever	...	1·86	...	0·55	... —1·31
		<hr/>		<hr/>	<hr/>
Total Fevers	...	4·65	...	3·29	... —1·36
		<hr/>		<hr/>	<hr/>

It would appear at first sight from the above that the Malays had practically no Typhoid Fever amongst them 10 years ago, but a great deal of Simple Continued Fever and Remittent Fever, whereas last year the conditions were reversed. A little examination will however show that this change has been the result not of an increase of Typhoid and a decrease of these other Fevers, but of improved diagnosis whereby much of what would 10 years ago have been returned as Simple Fever or Remittent Fever, is now being returned under its proper heading of Typhoid Fever. The same sort of thing has been happening in the case of the other indigenous races, although not to such a marked extent as in the case of the Malays, hence the great apparent increase of Typhoid Fever during recent years must be balanced against the decrease in the other members of the Fever group before any conclusion is arrived at. If this is done (excluding Europeans) by totalling all the Fevers including Typhoid for each of a series of years it will be found that the Fever death-rate amongst the indigenous races has decreased considerably instead of increasing as one is led to believe by a cursory examination of the statistics. The case of Typhoid amongst Europeans is however on a different footing and has been dealt with later.

A severe outbreak of Small-pox began in July, with a concealed case in Slave Island, which is believed to have been imported, as is usual, from India.

From this case the infection gradually spread to all parts of the town as the result of an unprecedented amount of concealment of cases.

The epidemic reached a maximum with 131 cases in October, after which it gradually but steadily declined until at the time of writing it has so far as the town is concerned disappeared, but so long as the infection exists in the adjoining country districts it will be liable to become reintroduced into Colombo.

438 cases with 88 deaths were reported up to 31st December. As it was observed early in the epidemic that it was not unvaccinated children, but adults, most of whom had not been revaccinated since childhood, who were chiefly affected, wholesale revaccination not only of the known contacts but also of all those living in the infected area was resorted to. In addition to the 8 Government Vaccinators, 6 special Municipal Vaccinators were appointed, and by these means up to the 31st December 29,290 persons were vaccinated, which represents more than one-seventh of the total population of Colombo, and an increase 1,286 primary and 10,518 revaccinations compared with 1907. Considering the great amount of work which had to be got through, and the great despatch which had to be observed in doing it, it is not surprising that a few complaints against the staff should have been made, but so far as I could judge by careful enquiry, none of these complaints were justified, which is I think, under the circumstances, much to their credit. Almost without exception they worked well and cheerfully throughout a most trying and arduous year.

The assistance which the Police gave throughout the epidemic was of the greatest service.

In addition to the outbreak of Small-pox there were sharp epidemics of both Chicken-pox (543 cases), and Measles (666 cases), which at times rendered diagnosis a matter of some difficulty.

3,381 cases of Infectious Diseases of all sorts, were reported and dealt with, in addition to the innumerable other matters which had to be attended to, rendered the year an unusually arduous one.

368 Typhoid infected compounds, were cleansed, 2,040 infected houses were disinfected and 17,263 infected articles, representing 280 loads, were passed through the Equifex Steam Disinfecter. The details of the other work performed and the fuller consideration of the various causes of deaths are given later.

3. **Meteorology.**—The following statements kindly furnished by Mr. Barnard the Superintendent of the Observatory show the chief points in regard to the Meteorological conditions which prevailed during the year, 1908. It will be seen that the rainfall for the year totalled only 58·41 inches, as against the average of 84·31 for 39 years, a shortage of 25·9 inches. This is the sixth year in succession that the rainfall has been below the average and is the lowest rainfall recorded since 1874 when the lowest on record was experienced 51·60 and as has been pointed out elsewhere this deficiency of rainfall is no doubt to some extent responsible for the unhealthiness which has prevailed :—

TABLE I.

(a) AVERAGE MONTHLY MEAN TEMPERATURE AT COLOMBO.

Years	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
39-40	79·1	80·2	82·1	82·6	82·3	81·0	80·6	80·7	80·8	80·1	79·8	79·1	80·7

(b) MONTHLY MEAN TEMPERATURE AT COLOMBO, DURING 1908.

Year	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
1908	79·5	79·8	82·9	83·4	81·2	79·5	79·3	79·2	78·6	78·9	79·0	77·7	79·9

(c) AVERAGE MONTHLY MEAN PRESSURE AT COLOMBO.

Years	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
39-40	29·876	29·875	29·854	29·839	29·806	29·812	29·802	29·829	29·845	29·847	29·855	29·839	29·840

(d) MONTHLY MEAN PRESSURE AT COLOMBO, DURING 1908.

Year	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
1908	29·915	29·848	29·866	29·803	29·833	29·839	29·849	29·830	29·824	29·835	29·847	29·852	29·845

(e) AVERAGE MONTHLY MEAN RAINFALL AT COLOMBO.

Years	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
39	3·53	2·06	4·49	10·46	11·39	7·75	4·46	3·52	4·84	14·48	11·95	5·38	84·31

(f) MONTHLY MEAN RAINFALL AT COLOMBO, DURING 1908.

Year	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
1908	4·20	1·57	4·48	10·87	9·00	4·27	1·42	2·14	2·57	13·27	3·53	1·09	58·41

4. **Topography.**—The following table given in Mr. Mansergh's 1897 Report on the Drainage of Colombo, shows the acreage at different heights above mean sea level, from which it will be seen that a large part of Colombo is lowlying and difficult to drain, and in the present absence of sewers many of the houses are situated upon damp ground, which is a point of importance in connection with the very high mortality from Phthisis :—

TABLE II.

ACERAGE AT DIFFERENT HEIGHTS ABOVE MEAN SEA LEVEL.

Up		BETWEEN CONTOURS.															
Feet	to	4	6	8	10	12	14	16	18	20	30	40	50	60	70	80	90
Feet	4	6	8	10	12	14	16	18	20	30	40	50	60	70	80	90	100
Acres	953	296	297	447	455	406	430	421	510	667	297	134	87	43	12	6	2

5. **Population.**—The following table shows the area and the estimated population in each Ward in 1908, and the density per acre of the area available for building purposes :—

TABLE III.

AREA AND POPULATION OF WARDS.

District.	Total area.	Net area available.	Estimated Population 1908.	Density per acre of available area.
Fort	220	112	2,285	30·4
Pettah	92	67	7,561	112·8
San Sebastian	116	108	10,463	96·9
St. Paul's	143	135	23,586	174·7
Kotahena	1,649	1,056	37,701	35·7
New Bazaar	289	226	19,881	88·0
Maradana	1,297	1,025	36,338	35·4
Slave Island	313	304	19,712	64·8
Colpetty	1,928	1,655	22,735	13·7
The lake (in 1897)	416	—	—	—
Total	6,463	4,688	180,262	38·5

The following table shows the estimated number of the several races in Colombo in 1908 :—

TABLE IV.

POPULATION OF RACES.

RACE.	Estimated Population in 1908.
Europeans	2,992
Burghers	12,732
Sinhalese	75,515
Tamils	44,535
Moors	32,464
Malays	5,442
Others	6,582
All races	180,262

The estimates of the population of immigrant races like the Europeans, Tamils and 'Others,' are liable to be seriously at fault, and therefore the rates of these races are far from trustworthy. This must be borne in mind when comparing their rates in different years, or with other races. In the case of the Europeans for instance, although their Typhoid rates indicate that this disease has greatly increased amongst them of late years, this conclusion may possibly be to some extent erroneous, but it will not be possible to definitely settle this point until the next official Census is taken, *viz.*, in 1911.

Section II.

Vital statistics.

6. With a view to obtaining the necessary data for striking averages, the death-rates from all the principal diseases have been worked out for each year since 1898. There are many points of interest disclosed by these figures which it is impossible to deal with in this report, but it is desirable that they should be recorded for future reference.

7. **Births.**—4,609 Ratio 25·5—Average for previous 10 years 23·2—Increase 2·3 per 1,000.

546 of these births were attended and reported by the Municipal Midwives.

The birth-rates in Colombo and Ceylon since 1898, are shown in Table V.

TABLE V.
COLOMBO AND CEYLON BIRTH-RATES.

YEAR.	Birth-rate per 1,000 Population.			
		Colombo.		Ceylon.
1898	.	22·6	...	38·8
1899	...	25·4	...	38·5
1900	...	21·9	...	38·6
1901	...	20·6	...	37·5
1902	...	23·0	...	38·5
1903	...	21·8	...	40·0
1904	...	22·0	...	38·5
1905	...	23·1	...	38·7
1906	...	27·3	...	35·7
1907	...	24·2	...	32·8
<hr/>				
Average 1898 to 1907	...	23·2	...	37·8
<hr/>				
1908	...	25·5	...	—
<hr/>				

The distribution of the births by Races is shown in Table VI.

TABLE VI.
RACIAL BIRTH-RATES.

RACE.	Birth-rate per 1,000 Population.			
		1898 to 1907.		1908.
Europeans	...	29·9	...	25·7
Burghers	...	31·9	...	34·1
Sinhalese	...	29·2	...	34·5
Tamils	...	12·6	...	12·6
Moors	...	21·4	...	20·9
Malays	...	27·6	...	31·6
Others	...	12·2	...	10·8
<hr/>				
All races	...	23·2	...	25·5
<hr/>				

The distribution of births by Wards is shown in Table VII.

TABLE VII.
WARD BIRTH-RATES.

WARD.	Birth-rate per 1,000 Population.			
		1898 to 1907.		1908.
Fort	...	4·3	...	7·4
Pettah	...	7·9	...	5·9
San Sebastian	...	21·5	...	22·4
St. Paul's	...	18·1	...	19·0
Kotahena	...	19·9	...	23·1
New Bazaar	...	26·0	...	22·8
Maradana	...	23·7	...	22·5
Slave Island	...	24·3	...	26·7
Colpetty	...	19·2	..	16·1
<hr/>				
*Colombo Town...		23·2	...	25·5
<hr/>				

* The Colombo Town rates include births in the Hospitals.

8. **Deaths.**—6,620 *Ratio 36·7—Average for previous 10 years 34·0—Increase 2·7 per 1,000.*
The death-rates in Colombo and Ceylon since 1898, are shown in Table VIII.

TABLE VIII.
COLOMBO AND CEYLON DEATH-RATES.
All causes—All races.

	Death-rate per 1,000 Population.			
		Colombo.		Ceylon.
1898	...	32·1	...	26·6
1899	...	29·8	...	30·6
1900	...	34·2	...	28·7
1901	...	34·7	...	27·6
1902	...	33·5	...	27·5
1903	...	34·8	...	25·9
1904	...	30·4	...	24·9
1905	...	34·7	...	27·7
1906	...	39·8	...	34·3
1907	...	32·5	...	30·1
<hr/>				
1898 to 1907	...	33·6	...	28·4
<hr/>				
1908	...	36·7	...	—
<hr/>				

The distribution of deaths by Races is shown in Table IX.

TABLE IX.

RACIAL DEATH-RATES—ALL CAUSES.

RACE.	Death-rate per 1,000 Population.		Increase or decrease.
	1898 to 1907.	1908.	
Europeans ...	29·6	35·1	+5·5
Burghers ...	26·4	30·3	+3·9
Sinhalese ...	36·2	43·9	+7·7
Tamils ..	36·7	30·2	—6·5
Moors ...	32·7	32·9	+0·2
Malays ...	36·1	36·0	—0·1
Others ...	34·5	32·1	—2·4
All Races ...	34·0	36·7	+2·7

It will be seen from the above that in 1908, the rates of the Europeans, Burghers, Sinhalese, and Moors were above the average, the greatest increase being in the case of the Sinhalese (increase 7·7), next come the Europeans (increase 5·5), then the Burghers (increase 3·9), the Moor rate was only 0·2 above their average. The rates of the Tamils, Malays, and others were on the otherhand below their average.

Table X. shows the distribution of deaths by Wards, but as has been explained in Report No. 384 of 1907, these Ward rates are owing to deaths in Hospitals, &c., very unreliable as an indication of the relative sanitary condition of the Wards, a much more reliable test in this respect being the Infant Mortality, given later :—

TABLE X.

WARD DEATH-RATES—ALL CAUSES.

WARD.	Death-rate per 1,000 Population.		Increase or decrease.
	1898 to 1907.	1908.	
Fort ...	14·5	11·4	—3·1
Pettah ...	13·9	11·9	—1·4
San Sebastian...	26·1	24·0	—2·1
St. Paul's ...	26·3	25·0	—1·0
Kotahena ...	28·1	26·7	—1·4
New Bazaar ...	31·1	33·6	+2·5
Maradana ...	27·4	29·8	+2·4
Slave Island ...	29·7	30·5	+0·8
Colpetty ...	19·8	24·7	+4·9
Colombo ...	34·0	36·7	+2·7

For further details of births and deaths reference may be made to Tables LXVIII. to LXXII. in the appendix.

9. **Infant mortality.**—Deaths 1,635. Ratio 355. Average for the previous 10 years 358. Increase 3 per 1,000 births.

The distribution of the Infant Mortality by Wards, Races, and Principal Causes expressed as rates per 1,000 births is shown in Statements XI. and XII. while the distribution by ages is shown on Table XIII.

TABLE XI.

INFANT MORTALITY BY WARDS 1898-1908—RATE PER 1,000 BIRTHS.

Year.	Colombo Town.	Fort and Galle Face.	Pettah.	San Sebastian.	St. Paul's	Kotahena.	New Bazaar.	Hospital.	Maradana.	Slave Island.	Colpetty.
1898	375	308	500	385	472	408	415	136	366	494	244
1899	328	—	200	345	372	353	351	197	313	391	242
1900	395	143	448	385	492	510	387	—	345	507	261
1901	389	—	364	480	462	508	431	285	339	426	211
1902	360	—	426	429	509	417	422	—	310	399	271
1903	410	273	630	384	481	518	468	247	361	432	333
1904	353	154	419	408	482	382	452	—	336	454	232
1905	361	666	481	461	559	381	461	147	353	458	251
1906	302	76	328	418	337	310	357	210	287	311	276
1907	304	100	298	367	431	289	395	204	296	325	251
Average 1898-1907	358	172	409	406	460	408	414	143	331	420	259
1908	355	353	467	333	412	346	467	215	426	340	340
	—3	+181	+58	—73	—48	—62	+53	+72	+95	—80	+81

TABLE XII.

INFANT MORTALITY—PRINCIPAL CAUSES.

Expressed as a rate per 1,000 births of each Race in 1908.

Cause.	All races.	Europeans.	Burghers.	Sinhalese.	Tamils.	Moors.	Malays.	Others.
All causes	... 355	... 156	... 233	... 319	... 505	... 437	... 314	... 591
Premature Birth	... 23	... 13	... 18	... 27	... 28	... 7	... 23	... 14
Atrophy and Debility	... 64	... 13	... 30	... 47	... 102	... 94	... 58	... 225
Bronchitis	... 24	... 13	... 18	... 21	... 34	... 29	... 23	... 28
Pneumonia	... 30	... 13	... 32	... 30	... 34	... 25	... 23	... 56
Diarrhœal	... 39	... 39	... 41	... 44	... 36	... 20	... 46	... 28
Convulsions	... 109	... 39	... 37	... 95	... 174	... 156	... 116	... 84
Tetanus	... 29	... 26	... 14	... 22	... 43	... 56	... 6	... 70

TABLE XIII.

INFANT MORTALITY FOR 1908.

Deaths at different age periods and from several causes.

CAUSE OF DEATH.	AGE.													RACE.							
	Age in Weeks.					Age in Months.								Europeans	Burghers.	Sinhalese.	Tamils.	Moors.	Malays.	Others.	All races.
	1	2	3	4	Total	2	3	4	5	6	6-9	9-12	Total								
<i>I. Developmental diseases—</i>																					
1. Premature birth	84	11	5	2	102	3	—	—	—	—	—	—	3	1	8	70	16	5	4	1	105
2. Atalectasis	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3. Atrophy & debility	131	29	14	29	203	29	17	13	5	8	10	10	92	1	13	122	66	67	10	16	295
4. Others	3	—	—	—	3	1	1	—	—	—	1	—	3	—	1	—	2	2	—	1	6
<i>II. Diseases of respiratory system—</i>																					
1. Laryngitis	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2. Croup	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3. Bronchitis	1	1	3	5	10	16	13	8	9	11	23	19	99	1	8	54	19	21	4	2	109
4. Pneumonia	2	—	2	4	8	13	4	12	15	14	38	34	130	1	14	78	19	18	4	4	138
5. Others	—	—	—	—	—	1	—	—	1	—	—	1	3	—	—	3	—	—	—	—	3
<i>III. Diseases of digestive system—</i>																					
1. Diarrhœal	4	4	5	7	20	23	28	17	15	19	33	25	160	3	18	115	20	14	8	2	180
2. Dentition	—	—	—	—	—	—	—	—	—	—	1	—	1	—	1	—	—	—	—	—	1
3. Others	14	4	4	6	28	13	6	6	6	5	7	2	45	—	8	37	9	15	3	1	73
<i>IV. Diseases of nervous system—</i>																					
1. Convulsions	144	64	21	46	275	58	37	23	25	16	44	24	227	3	16	248	98	111	20	6	502
2. Laryngismus stridulus	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3. Tetanus	94	31	6	—	131	1	—	—	—	—	1	—	2	—	6	57	24	40	1	5	133
4. Others	1	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	1
<i>V. Tuberculous diseases—</i>																					
1. Tabes messenterica	—	1	—	—	1	—	—	1	2	—	3	1	7	—	2	3	—	2	—	1	8
2. Tubercular meningitis	—	—	—	—	—	1	—	1	—	2	—	1	5	2	—	2	1	—	—	—	5
3. Others	1	—	—	—	1	—	1	1	—	1	—	1	4	—	1	3	—	—	—	1	5
<i>VI. Accidents—</i>																					
1. Injury	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2. Umbilical hæmorrhage	—	1	—	—	1	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	1
3. Suffocation	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4. Other violence	1	—	—	1	2	—	—	—	—	—	—	—	—	—	—	1	1	—	—	—	2
<i>VII. Infectious diseases—</i>																					
1. Small-pox	—	1	—	1	2	—	1	—	—	2	1	—	4	—	—	4	1	1	—	—	6
2. Chicken-pox	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3. Measles	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4. Whooping cough	—	—	—	—	—	1	—	—	1	—	—	—	2	—	1	1	—	—	—	—	2
5. Mumps	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6. Diphtheria	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
7. Cerebro-spinal fever	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
8. Scarlet fever	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
<i>VIII. Syphilis—</i>																					
1. Syphilis	—	—	—	—	—	1	3	—	—	1	1	1	7	—	1	3	—	3	—	—	7
<i>XI. All other causes—</i>																					
1. All other causes	2	—	—	2	4	2	5	3	2	4	14	19	49	—	3	30	8	10	—	2	53
Total	482	147	60	103	792	163	116	85	81	83	177	138	843	12	101	832	284	310	54	42	1635

The chief points of interest in these tables are the following.

The Infant Mortality from all causes amongst the population as a whole in 1908, although higher than in the two preceeding years was a trifle below the average for the previous 10 years. Excluding the Fort and Pettah which have such small infant populations that their rates are not comparable with the others, the Ward with the highest infant death-rate in 1908 was New Bazaar, and the lowest was San Sebastian.

The Ward with the highest average rate is however St. Paul's, while Colpetty has the lowest average rate.

The 'Others', Tamils, and Moors all had very high infant death-rates in 1908, whereas the Europeans and Burghers, but specially the Europeans, had comparatively low rates.

The cause to which the most of the infant deaths were ascribed was Convulsions, to which over 30 per cent of the total Infant Mortality was attributed. Next in importance on the list comes Debility.

It is an interesting fact that over 29 per cent of the total infant deaths occurred during the first week of life, while 48·4 per cent occurred during the first month.

94 per cent of the deaths which occurred during the first week of life were attributed to either Convulsions, Debility, Premature birth, or Tetanus Neonatorum, which points amongst other things to ignorance and carelessness on the part of the mothers in the matter of the care of infants.

From what I have seen during the last 6½ years I should not say that starvation or lack of nutrition of the mother prior to confinement, plays a very important part in the causation of the Infant Mortality in Colombo, but it no doubt is a factor in some cases. An infinitely greater source of the infant death-rate here is I think carelessness and ignorance on the part of the mothers in the matter of the care and feeding of their infants, together with the fact that many of them get up and go to work too soon after their confinement.

The proposal to establish a number of Municipal Dispensaries with attached health visitors, the principal of which the Council has approved, will it is hoped become before long an accomplished fact, and will in time help to improve matters in respect of the Infant Mortality, but it is bound to be a slow process, since it must largely be an educative one.

19. The **mortality from groups of diseases** in 1908, is shown in Table XIV.

TABLE XIV.

MORTALITY IN THE TOWN OF COLOMBO.

From groups of diseases in 1907 and 1908 and the average for 1898-1907.

Causes of Deaths.	Total Deaths.			Mortality per 1,000 Population.			Increase or decrease compared with the average.
	Average 1898 to 1907.	1907.	1908.	Average 1898 to 1907.	1907.	1908.	
All causes	5467	5747	6620	34·00	32·52	36·72	+2·72
I. Zymotic diseases	1609	1426	1667	10·04	8·07	9·25	—0·79
II. Parasitic diseases	173	182	279	1·08	1·03	1·55	+0·47
III. Dietetic diseases	12	46	73	0·07	0·26	0·40	+0·33
IV. Constitutional diseases	682	829	873	4·28	4·69	4·84	+0·56
V. Developmental diseases	353	365	405	2·20	2·07	2·25	+0·05
VI. Local diseases	2072	2261	2727	12·83	12·79	15·12	+2·29
VII. Violence	91	112	110	0·56	0·63	0·61	+0·05
VIII. Ill-defined and not specified causes	475	526	486	2·94	2·98	2·70	—0·24

All the great groups show an increase in 1908, compared with the average, except the Zymotic and the Ill-defined groups.

The details of these groups are shown in Tables LXVIII. and LXIX. in the appendix.

11. **Principal causes of deaths.**—The various causes to which the deaths in Colombo are ascribed are classified in Table LXIX. in the appendix under 169 headings or so called "diseases," several of which are not however strictly speaking entitled to be designated as diseases. Of these the great majority are responsible as a rule for only a few deaths each year, whereas a select few are responsible year after year for a great proportion of the total mortality. These principal causes have been grouped for convenience into 3 groups, *viz.*, (*a*) the Pulmonary group, including Phthisis, Pneumonia and Bronchitis; (*b*) the Diarrhoeal group, comprising Diarrhoea and Enteritis, and Dysentery; and (*c*) the Fever group, comprising Typhoid or Enteric Fever, Simple Continued Fever, Remittent Fever, and Intermittent Fever.

Table XV. and Diagrams II. and III. show the mortality from these groups since 1898, while Table XVI. shows the relative importance as regards each race of these various causes of deaths in 1908.

TABLE XV.
PRINCIPAL GROUPS OF DISEASES, 1898-1908.

Year.	Rate per 1,000 Population.					
	Pulmonary.		Diarrhoeal.		Fevers.	
1898	...	5.87	...	5.26	...	3.59
1899	...	5.48	...	5.05	...	3.22
1900	...	6.65	...	6.12	...	3.17
1901	...	8.45	...	6.55	...	2.92
1902	...	7.21	...	6.69	...	2.76
1903	...	7.51	...	6.99	...	3.05
1904	...	7.54	...	5.43	...	2.16
1905	...	8.30	...	7.07	...	2.07
1906	...	9.36	...	8.10	...	3.39
1907	...	8.35	...	5.07	...	2.59
Average 1898-1907	...	7.47	...	6.23	...	2.89
1908	...	9.52	...	5.63	...	2.84
Increase or decrease	...	+2.05	...	-0.59	...	-0.05

TABLE XVI.
PRINCIPAL CAUSES OF DEATHS IN EACH RACE, 1908.
Expressed as a percentage of total deaths in each race.

DISEASES.	Euro- peans.	Bur- ghers.	Sin- halese.	Tamils	Moors.	Malays	Others	All races.
Typhoid Fever	21.9	10.1	7.5	3.7	4.4	5.1	5.2	6.5
Simple Continued Fever	0.0	0.2	0.7	0.1	0.2	2.5	0.0	0.5
Remittent Fever	1.9	0.5	0.5	1.0	1.0	1.5	0.9	0.7
Total Fevers	23.8	10.8	8.7	4.8	5.6	9.1	6.1	7.7
Diarrhoea	4.8	7.0	9.4	12.2	5.3	4.5	7.6	8.9
Dysentery	11.4	5.9	3.8	6.9	3.0	3.1	8.5	4.7
Enteritis	0.0	2.3	2.3	0.9	1.2	2.1	0.9	1.7
Total Diarrhoeal	16.2	15.2	15.5	20.0	9.5	9.7	17.0	15.3
Phthisis	7.6	10.3	10.3	10.2	11.3	10.7	11.8	10.5
Pneumonia	3.8	10.9	10.5	14.2	12.8	10.2	18.5	3.6
Bronchitis	0.9	3.4	3.4	3.3	5.2	3.1	3.8	11.8
Total Pulmonary	12.3	24.6	24.2	27.7	29.3	24.0	34.1	25.9

The rates given in Table XVI. must not be used for the purpose of contrasting the mortality from any of these causes in one race with that in another, or during one year with that in another. They can only be used as an index of what diseases each race suffered most from during 1908. It would be quite wrong for instance to assume that Burghers and Sinhalese suffered equally from Phthisis, because they did not as Table XXI. shows. All one can say from Table XVI. is that Phthisis occupied the second place as a cause of deaths amongst both the Burghers and Sinhalese.

As Table XVIII. shows the mortality from the Pulmonary group was the highest recorded during the last 11 years, the rate of increase being 2.05 per 1,000, which is not far short of the total increase in the death-rate from all causes (2.7). The mortality from both the Diarrhoeal and Fever groups, but particularly from Diarrhoeal group, was on the other hand below the average. The total Fevers rate is of special interest in view of the apparent great increase in the mortality from Typhoid Fever which is a member of the Fever group. Reference to this is made later. The mortality in 1908, from the several diseases included in these 3 groups as well as from one or two other diseases is contrasted in Table XVII. with the average mortality from these causes during the preceeding 10 years.

TABLE XVII.
PRINCIPAL CAUSES OF DEATHS, 1898-1908.

	Rate per 1,000 Population.					
	Average 1898 to 1907.		1908.		Increase or Decrease.	
Typhoid or Enteric and Suspected Enteric	...	0.86	...	2.39	...	+1.53
Simple Continued Fever	...	0.96	...	0.18	...	-0.78
Remittent fever	...	1.04	...	0.27	...	-0.77
Intermittent Fever	...	0.03	...	0.00	...	-0.03
Phthisis	...	3.25	...	3.86	...	+0.61
Pneumonia	...	2.88	...	4.33	...	+1.45
Bronchitis	...	1.34	...	1.33	...	-0.01
Diarrhoea and Enteritis	...	3.78	...	3.91	...	+0.13
Dysentery	...	2.44	...	1.72	...	-0.72
Infantile Convulsions	...	2.95	...	3.21	...	+0.26
Tetanus	...	1.09	...	0.97	...	-0.12
Ill-defined	...	2.92	...	2.70	...	-0.22
Anchylostomiasis	...	0.42	...	0.53	...	+0.09

It will be most convenient to consider these diseases under their respective group headings.

12. **Pulmonary Diseases.**—Deaths 1,715. Ratio, 9.52. Average for the previous 10 years 7.47. Increase 2.05 per 1,000.

This group includes Phthisis, Pneumonia, and Bronchitis each of which is dealt with later.

As shown in Statement XV. and Diagram II. the mortality from this group of diseases has been steadily rising until now it is almost double what it was 10 years ago. For this, Phthisis and Pneumonia are chiefly responsible as Diagram III. and Statement XVIII. show.

TABLE XVIII.

PULMONARY DISEASES, 1898 TO 1908.

All races, Death-rate per 1,000 Population.

Year.	Phthisis.	Pneumonia.	Bronchitis.	Total Pulmonary.
1898	2.52	1.79	1.55	5.87
1899	2.39	1.94	1.15	5.48
1900	2.72	2.62	1.31	6.65
1901	3.21	3.63	1.61	8.45
1902	3.00	2.89	1.32	7.21
1903	3.22	3.00	1.29	7.51
1904	3.58	2.58	1.38	7.54
1905	3.65	3.32	1.33	8.30
1906	4.19	3.76	1.41	9.36
1907	4.00	3.29	1.06	8.35
Average 1898 to 1907	3.25	2.88	1.34	7.47
1908	3.86	4.33	1.33	9.52
Increase or Decrease	+0.61	+1.45	—0.01	+2.05

During the 10 years 1898 to 1907 *Phthisis* occupied on an average the first place amongst all diseases as a cause of deaths, but in 1908 it lost its premier position owing not to any decrease of this disease but to the great increase in the mortality from *Pneumonia* which showed an increase of 1.45 per 1,000 compared with the average. The mortality from *Phthisis* although not quite so high as in 1906 and 1907 was nevertheless 0.61 per 1,000 above the average of the previous 10 years. *Bronchitis* has remained much the same throughout, it is not usually classed as an Infectious Disease in the sense that *Phthisis* and *Pneumonia* are.

Table XIX. shows the distribution of the Pulmonary mortality by races since, 1898.

TABLE XIX.

PULMONARY DISEASES 1898 TO 1908.

Death-rate of each race per 1,000 Population.

YEAR.	All races.	Europeans.	Burghers.	Sinhalese.	Tamils.	Moors.	Malays.	Others.
1898	5.87	3.15	5.20	6.80	5.27	5.39	4.78	3.78
1899	5.48	4.26	4.98	5.88	5.39	5.19	5.82	4.07
1900	6.65	4.19	6.37	6.47	7.21	6.61	7.48	7.28
1901	8.45	6.73	7.81	9.25	8.16	7.47	6.84	10.81
1902	7.21	2.57	5.07	7.27	8.01	7.34	6.01	8.62
1903	7.51	3.25	5.68	8.06	7.26	7.36	5.65	10.53
1904	7.54	4.98	6.75	8.00	6.36	7.98	8.96	8.88
1905	8.30	3.15	5.74	8.98	7.58	8.56	8.72	10.21
1906	9.36	4.12	7.42	9.87	9.81	8.73	7.72	11.88
1907	8.35	1.69	5.60	8.73	8.13	8.73	9.39	9.69
Average 1898-1907	7.47	3.81	6.16	7.93	7.32	7.34	7.14	8.58
1908	9.52	4.34	7.46	10.61	8.35	9.68	8.64	10.94
Increase or decrease	+2.05	+0.53	+1.30	+2.68	+1.03	+2.34	+1.50	+2.36

It will be seen that every race except the Europeans has had a consistently high death-rate from these causes, and that every race shows an increased mortality during 1908, compared with the average. The Sinhalese, the "Others" and the Moors show the greatest increase.

The distribution of the Pulmonary mortality in each race according to sex is one of the most interesting points brought out by the statistics and is shown on Table XX. :—

TABLE XX.

DEATH-RATES FROM PULMONARY DISEASES, 1908—RATE PER 1,000
POPULATION OF EACH SEX.

(Calculated on the Census Population.)

RACE.		Pulmonary Group.		Phthisis.		Pneumonia.	
		Males.	Females.	Males.	Females.	Males.	Females.
All Races	...	9.86	12.68	3.86	5.30	4.89	5.27
Europeans	...	7.15	5.13	5.56	1.28	1.59	2.56
Burghers	...	6.87	9.12	3.09	3.65	3.26	3.82
Sinhalese	...	10.62	12.90	4.57	5.49	4.87	5.27
Tamils	...	9.43	13.94	3.33	5.48	5.33	5.98
Moors	...	8.59	14.60	2.84	6.48	4.29	5.48
Malays	...	8.22	12.15	3.70	5.83	3.29	4.86
Others	...	18.59	12.59	6.51	4.20	9.92	7.35

The most remarkable point brought out by the above table is that these Pulmonary diseases, but particularly Phthisis, cause a higher rate of mortality amongst females than males, which is the reverse of what holds good in England.

Only in the case of the Europeans and the “ Others ” is there a higher male than a female mortality.

Another interesting point is that if we exclude the Tamil rates, which are entirely untrustworthy owing to the disturbing influence of immigration and emigration, the higher female mortality is most marked in the case of the two Mohammedan races, *viz.*, the Moors and Malays, but particularly in the case of the Moors.

There can I think be little doubt that the Mohammedan custom of secluding their women is in no small measure responsible for this, by depriving them of the protective influence of an out of door life.

The explanation in the case of the Burghers and Sinhalese is not so apparent, but the difference is much less marked in their case, and is also no doubt in some way associated with their habits of life as contracted with those of the Europeans.

13 **Phthisis.**—Deaths 696. Ratio, 3.86. Average for previous 10 years 3.25. Increase 16.0 per 1,000.

The mortality from this disease in each race since 1898, is shown in Table XXI. :—

TABLE XXI.

MORTALITY FROM PHTHISIS, 1898–1908—RATE OF EACH RACE PER 1,000 POPULATION.

Years.		All races.	Europeans.	Burghers.	Sinhalese.	Tamils.	Moors.	Malays.	Others.
1898	...	2.52	2.37	2.78	2.96	1.97	2.14	2.87	1.51
1899	...	2.39	1.94	2.32	2.60	2.42	1.96	2.79	1.92
1900	...	2.72	1.90	3.23	2.76	2.48	2.55	3.85	3.41
1901	...	3.21	3.74	3.53	3.78	2.45	2.51	3.09	3.89
1902	...	3.00	1.10	2.66	3.38	2.97	2.57	3.00	2.26
1903	...	3.22	2.89	2.55	3.64	2.42	3.39	2.93	4.29
1904	...	3.58	2.49	4.07	4.03	2.64	3.57	3.88	3.52
1905	...	3.65	2.45	2.72	4.23	2.88	3.44	4.76	4.05
1906	...	4.19	2.40	3.71	4.71	4.09	3.48	3.86	4.35
1907	...	4.00	1.01	3.00	4.50	3.28	3.92	5.45	4.77
Average 1898–1907	} ...	3.25	2.23	3.06	3.66	2.76	2.93	3.65	3.40
1898	...	3.86	2.67	3.14	4.54	3.08	3.76	3.86	3.80
Increase or decrease	} ...	+0.61	+0.44	+0.08	+0.88	+0.32	+0.83	+0.21	+0.40

As the above table and Diagram III. show the mortality from Phthisis has been steadily rising for many years.

Every race except the Europeans has participated in this rise, but it is most marked in the case of the Sinhalese. Every race shows an increase in 1908, compared with the average of the previous ten years. The race which has suffered most on an average from this disease is the Sinhalese followed closely by the Malays and Others, the Europeans have suffered relatively little. The statement which has more than once been made in public, that the Burghers suffer more than any other race here from Phthisis is quite erroneous as Table XXI. shows.

If reference is made to Table XX. it will be seen that the proportion of Moorish women to men who suffer from Phthisis is extraordinarily high, much more so than in the case of even Malays, which is no doubt to be explained in a large measure by the fact that the Moors observe the custom of keeping their women in seclusion much more rigidly than do the Malays.

As to the explanation of the steadily increasing mortality from Phthisis in Colombo, the principal factors have already been indicated in the opening paragraph, where it has been pointed out that with a view to the checking the increase of mortality the sewerage of the town should be pushed on as rapidly as circumstances permit, and that legal powers should be granted empowering the Council to require owners to improve their properties by lighting and ventilating them, and by adopting measures to occlude damp.

A further measure, would be to make Phthisis a compulsorily notifiable disease, and then to as far as possible segregate those affected with the disease and to carry out disinfection of infected houses. This would however involve the organisation of a special staff if it were to be effectively carried out, since the present staff is already overtaxed with the work now in hand.

The prevention of overcrowding, which is one of the contributory causes of Phthisis, is as has been previously stated an almost hopeless task, owing to the high rents which are demanded for houses. It is to be hoped that the present energy displayed in the erection of new buildings will in time relieve the present congestion of population and will result in the rents being better adjusted to the incomes of the people, and thereby reduce the tendency towards overcrowding, but it is unfortunate that the legal powers as regards the erection of new buildings have not been sufficiently definite and comprehensive to ensure this development of property being carried out on approved sanitary lines.

14. Pneumonia.—Deaths 780. Ratio 4·33. Average for the previous 10 years 2·88. Increase 1·45 per 1,000.

Pneumonia and Phthisis have a good deal in common as regards their etiology and therefore much of what has been said as regards Phthisis applies to Pneumonia. They are both destructive diseases of the lungs, and both are Infectious Diseases. Pneumonia is probably more immediately associated with climatic conditions such as sudden drops in the temperature, than Phthisis, hence the more erratic character of the Pneumonia mortality curve shown on Diagram III.

The death-rate from this disease since 1898, is shown in Table XXII. :—

TABLE XXII.

MORTALITY FROM PNEUMONIA, 1898–1908.

Rate of each race per 1,000 Population.

Year.	All races.	Europeans.	Burghers.	Sinhalese.	Tamils.	Moors.	Malays.	Others.
1898	1·80	0·39	0·78	2·17	2·06	1·41	0·23	1·76
1899	1·94	1·94	1·55	1·65	2·30	1·42	2·09	1·75
1900	2·61	1·52	1·70	2·57	3·67	2·00	2·72	3·41
1901	3·61	1·31	2·35	3·85	4·45	2·75	2·43	6·27
1902	2·88	1·10	1·58	2·54	3·97	2·81	1·93	5·34
1903	3·00	0·36	2·14	3·11	3·67	2·27	2·09	5·07
1904	2·58	0·36	1·79	2·58	2·67	2·49	1·83	5·00
1905	3·32	0·70	2·09	3·51	3·92	2·80	1·58	4·76
1906	3·76	1·72	2·63	3·73	4·67	3·42	1·16	5·35
1907	3·29	0·68	2·13	3·19	3·86	3·27	2·82	4·29
Average 1898–1907	2·88	1·01	1·87	2·89	3·52	2·46	1·89	4·30
1908	4·33	1·34	3·30	4·60	4·29	3·76	3·68	5·93
Increase or decrease	+1·45	+0·33	+1·43	+1·71	+0·77	+1·30	+1·79	+1·63

Pneumonia was the chief cause of deaths amongst the population as a whole in 1908, and every race shows an increase compared with the average, the greatest increase being in the case of the Malays who however have normally a relatively low death-rate from this cause. The “Others” hold the highest average rate as well as the highest rate in 1908. The Europeans suffer comparatively little from this or indeed any other of the Pulmonary diseases.

15. Bronchitis.—Deaths 239. Ratio 1·33. Average for the previous 10 years 1·34. Decrease 0·01 per 1,000.

The mortality from this disease in each race since 1898, is shown in Table XXIII. and as it is neither a very important cause of deaths, nor shows any tendency to increase it need not be further referred to.

TABLE XXIII.

MORTALITY FROM BRONCHITIS, 1898-1908.

Rate of each race per 1,000 Population.

Year.		All races.	Europeans.	Burghers.	Sinhalese.	Tamils.	Moors.	Malays.	Others.
1898	...	1.55	0.39	1.65	1.67	1.24	1.76	1.67	0.50
1899	...	1.15	0.39	1.12	1.19	0.67	1.81	0.93	0.48
1900	...	1.31	0.76	1.41	1.20	1.06	2.06	0.91	0.45
1901	...	1.60	0.37	1.93	1.62	1.26	2.20	1.32	0.65
1902	...	1.26	0.37	0.83	1.35	1.07	1.96	1.08	1.03
1903	...	1.28	0.00	0.99	1.31	1.17	1.70	0.63	1.17
1904	...	1.38	0.13	0.89	1.39	1.05	1.93	3.26	0.36
1905	...	1.33	0.00	0.95	1.24	0.79	2.32	2.38	1.41
1906	...	1.41	0.00	1.08	1.42	1.05	1.83	2.70	2.18
1907	...	1.06	0.00	0.47	1.04	0.99	1.59	1.12	0.63
Average 1898-1907	...	1.34	0.44	1.14	1.34	1.04	1.92	1.60	0.89
1908	...	1.33	0.33	1.02	1.48	0.98	2.16	1.10	1.21
Increase or decrease	...	-0.01	-0.11	-0.12	+0.14	-0.06	+0.24	-0.50	+0.32

16. **Diarrhœal Diseases.**—Deaths 1,015. Ratio 5.63. Average for previous 10 years 6.21. Decrease 0.60 per 1,000.

In this group are included Diarrhœa, Enteritis, and Dysentery. Cholera although a Diarrhœal disease is not, according to the returns endemic here, and is therefore not included. It is convenient to consider Diarrhœa and Enteritis as one disease, since the differentiation shown in the returns is for the most part incomplete and artificial, the two terms being for all practical purposes synonymous. The mortality from these diseases since 1898, is shown in Table XXIV. and on Diagram IV.

TABLE XXIV.

DIARRHOEAL DISEASES ALL RACES.

Death-rate per 1,000 Population.

Year.		Diarrhœa and Enteritis.		Dysentery.		Total Diarrhœal.
1898	...	2.26	...	3.00	...	5.26
1899	...	2.93	...	2.12	...	5.05
1900	...	3.70	...	2.41	...	6.12
1901	...	4.38	...	2.16	...	6.55
1902	...	4.37	...	2.32	...	6.69
1903	...	4.20	...	2.79	...	6.99
1904	...	3.56	...	1.88	...	5.43
1905	...	4.32	...	2.75	...	7.07
1906	...	4.48	...	3.31	...	8.10
1907	...	3.34	...	1.73	...	5.07
Average 1898-1907	...	3.79	...	2.45	...	6.23
1908	...	3.91	...	1.72	...	5.63
Increase or decrease	...	+0.12		-0.73		-0.60

It will be seen that the mortality from these diseases both as a group and individually has been somewhat erratic, but which on the whole a marked tendency towards an increase as indicated by the broken line C. D. on Diagram IV. Desentery does not show any tendency towards progressive increase while the last two years have shown decided signs of improvement in respect of this disease and also Diarrhœa. There can be little doubt that the progressive pollution of the soil in the immediate vicinity of dwellings, and as one result of this the greater liability to pollution of food, is in the main responsible for the high Diarrhœa rate in Colombo.

It is to be expected that when the town has been sewered and provision has so been made for the disposal of the vast amount of sullage which has been and is still being poured out on the soil, there will be a marked improvement in the Diarrhœal death-rate.

The distribution of the mortality in each race from Diarrhœal diseases since 1898, is shown in Table XXV.

TABLE XXV.

ALL DIARRHOEAL DISEASES, 1898-1908.

Death-rate of each race per 1,000 Population.

Year.		All races.	Europeans.	Burghers.	Sinhalese.	Tamils.	Moors.	Malays.	Others.
1898	...	5.26	3.54	3.90	4.80	6.88	4.63	2.15	5.54
1899	...	5.05	3.49	4.55	5.06	6.64	3.95	1.40	5.75
1900	...	6.12	4.95	4.50	6.02	9.13	3.81	5.67	5.46
1901	...	6.55	5.24	3.78	5.47	11.44	4.75	5.29	5.84
1902	...	6.69	7.36	4.99	6.23	10.13	4.57	3.87	6.98
1903	...	6.99	9.04	5.73	7.32	8.48	5.18	6.27	5.27
1904	...	5.43	6.04	4.97	5.81	5.19	4.65	6.92	5.75
1905	...	7.07	5.24	6.04	7.62	8.18	5.24	5.55	5.99
1906	...	8.10	7.22	5.58	8.05	11.10	5.76	5.21	7.19
1907	...	5.07	5.74	3.24	4.39	7.90	3.86	2.41	4.61
Average 1898-1907	...	6.23	5.79	4.73	6.08	8.51	4.64	4.47	5.84
1908	...	5.63	5.68	4.63	6.79	6.04	3.14	3.49	5.47
Increase or decrease	...	-0.60	-0.11	-0.10	+0.71	-2.47	-1.50	-0.98	-0.37

The Tamils have suffered most as a rule and the Malays least from Diarrhoeal diseases. Europeans also suffer severely.

In 1908, the Sinhalese and Tamils suffered most.

17. **Diarrhoea and Enteritis.**—Deaths 705. Ratio, 391. Average for the previous 10 years, 3.78. Increase 0.13 per 1,000.

The Tamils have suffered more on an average than any other race from this class of diseases and the Europeans the least, Dysentery being the particular number of this group which chiefly affects the Europeans. During 1908, the Sinhalese suffered most from Diarrhoea and were the only race who showed an increase compared with their average.

The rates for the various races since 1898 are shown in Table XXVI.

TABLE XXVI.

DIARRHOEA AND ENTERITIS, 1898-1908.

Death-rate of each race per 1,000 Population.

Year.		All races.	Europeans.	Burghers.	Sinhalese.	Tamils.	Moors.	Malays.	Others.
1898	...	2.26	0.39	1.39	2.35	3.61	1.27	0.48	2.52
1899	...	2.93	1.16	3.35	2.98	3.92	2.13	0.47	2.15
1900	...	3.70	1.52	2.80	3.95	5.53	1.71	3.63	2.96
1901	...	4.38	1.50	2.77	3.88	7.85	2.58	3.53	3.67
1902	...	4.37	3.68	3.82	4.31	6.77	2.17	3.01	3.70
1903	...	4.20	3.25	3.70	4.72	5.08	2.40	3.76	3.12
1904	...	3.56	1.42	3.09	4.04	3.16	3.08	4.88	3.34
1905	...	4.32	1.75	4.03	5.03	4.71	2.54	3.57	3.35
1906	...	4.84	2.06	4.07	5.10	6.01	3.20	3.83	3.85
1907	...	3.34	3.04	1.97	3.03	5.22	2.58	0.94	2.38
Average 1898-1907	...	3.78	1.98	3.10	3.94	5.19	2.37	2.81	3.10
1908	...	3.91	1.67	2.83	5.12	3.95	2.16	2.39	2.74
Increase or decrease	...	+0.13	-0.31	-0.27	+1.18	-1.24	-0.21	-0.42	-0.36

18. **Dysentery.**—Deaths 310. Ratio 1.72. Average for the previous 10 years 2.48. Decrease 0.76 per 1,000.

The distribution of the mortality from this disease by race since 1898, is shown in Table XXVII.

TABLE XXVII.

DYSENTERY, 1898-1907.

Death-rate of each race per 1,000 Population.

YEAR.		All races.	Europeans.	Burghers.	Sinhalese.	Tamils.	Moors.	Malays.	Others.
1898	...	3'00	3'15	2'51	2'56	3'27	3'37	1'67	3'02
1899	...	2'12	2'33	1'20	2'08	2'72	1'82	0'93	3'60
1900	...	2'41	3'43	1'70	2'07	3'60	2'10	2'04	2'50
1901	...	2'16	3'74	1'01	1'59	3'29	2'17	1'76	2'17
1902	...	2'32	3'68	1'17	1'92	3'36	2'40	0'86	3'28
1903	...	2'79	5'79	2'03	2'60	4'40	2'78	2'51	2'15
1904	...	1'88	4'62	1'88	1'77	2'03	1'57	2'04	2'41
1905	...	2'75	3'49	2'01	2'69	3'47	2'70	1'98	2'64
1906	...	3'31	5'16	1'51	2'95	5'09	2'56	1'35	3'34
1907	...	1'73	2'70	1'27	1'36	2'68	1'32	1'50	2'23
Average 1898-1907	...	2'48	3'81	1'63	2'16	3'39	2'28	1'66	2'73
1908	...	1'72	4'01	1'80	1'67	2'09	0'98	1'10	2'74
Increase or decrease	...	-0'76	+0'20	+0'17	-0'49	-1'30	-1'30	-0'56	+0'01

The most noteworthy feature about the Dysentery death-rates is the very high mortality amongst Europeans, who have not only the highest average death-rate of any race from this causes, but who had also by far the highest death-rate in 1908. This disease like Typhoid Fever is one to which Europeans are peculiarly liable. Both are essentially filth disease, to which Europeans have not acquired any degree of immunity, and both are acquired for the most part through their food supplies. The exposure to a tropical climate which does not of course prejudice the indigenous races, weakens the resistance of the unacclimatised Europeans and thus renders them more liable to contract these diseases. The race which next to the Europeans suffers most from Dysentery is the Tamils, who appear to be peculiarly liable to bowel complaints for they have also the highest average mortality from Diarrhoea and Enteritis. The explanation of the high Tamil Diarrhoea mortality probably lies in the fact that they are for the most part immigrants, together with the fact that they probably more than any other race are, owing to their poverty, subjected to exposure and hardships, and the large proportion of those in Colombo being of the poorer or cooly class they are probably not so scrupulous in the matter of cleanliness as regards their food supply as other races. It is probable that the most powerful of these factors is their poverty; but the fact that they are not indigenous here has probably also got something to do with either their Diarrhoeal and Dysentery mortality.

19. **Fevers.**—Deaths 512. Ratio 2'84. Average for the previous 10 years 2'89. Decrease 0'05 per 1,000.

In this group are included Typhoid or Enteric Fever, Simple Continued Fever, Remittent Fever, and Intermittent Fever. Intermittent Fever which is a type of Malaria has practically disappeared from the returns and need not therefore be further considered.

The death-rate from these various fevers since 1898, is shown on Table XXVIII. and on Diagrams II. and V.

TABLE XXVIII.

FEVERS, 1898-1908.

All races mortality per 1,000 Population.

YEAR.		All races.	Enteric and suspected Enteric.	Simple continued Fever.	Remittent Fever.	Intermittent Fever.
1898	...	3'59	0'73	1'24	1'52	0'07
1899	...	3'22	0'64	1'14	1'37	0'04
1900	...	3'17	0'83	1'32	0'93	0'07
1901	...	2'92	0'60	1'43	0'84	0'03
1902	...	2'76	0'56	1'15	1'03	0'00
1903	...	3'05	0'60	1'31	1'11	0'01
1904	...	2'16	0'55	0'58	0'99	0'03
1905	...	2'07	0'80	0'29	0'97	0'00
1906	...	3'39	1'55	0'83	1'00	0'00
1907	...	2'59	1'71	0'28	0'61	0'00
Average 1898-1907	...	2'89	0'86	0'96	1'04	0'03
1908	...	2'84	2'39	0'18	0'27	0'00
Increase or decrease	...	-0'05	+1'53	-0'78	-0'77	-0'03

It will be seen (*vide* also Diagrams II. and V.) that with the exception of 1906 the general tendency of the Fevers death-rate during the last 10 years has been distinctly downwards, a fact which is apparently not commonly known. During 1906 however there was a most unfortunate exacerbation of the Fever mortality, particularly the Typhoid Fever mortality, the result being the implanting amongst the population during that year of a great amount of infection, which, as pointed out in my Report upon "Fevers in Colombo", will probably be reflected in the Fever rates for some time to come. The most noteworthy point disclosed by Table XXVIII. is the fact that while Typhoid Fever has apparently greatly increased amongst the population as a whole during the last few years, Simple Continued Fever and Remittent Fever have apparently greatly decreased, the nett result being an actual decrease from Fevers as a whole compared with the average. The explanation of this is, as has previously been explained, that the diagnosis of Fevers is becoming more accurate and Fevers which a few years ago would probably have been returned as Simple Continued Fever, or Remittent Fever, are now being recognised and returned under their proper heading of Typhoid Fever. This is borne out by the Statistics in Table XXVIII. for it will be seen that the increase of 1.53 in Typhoid Fever in 1908, is counterbalanced by the decrease of 1.58 in the other Fevers.

The mortality from all Fevers by race since 1898, is shown in Table XXIX.

TABLE XXIX.

ALL FEVERS, 1898-1908. DEATH-RATES OF EACH RACE PER 1,000 POPULATION.

Year.	All races.	Europeans.	Burghers.	Sinhalese.	Tamils.	Moors.	Malay.	Others.
1898	3.59	4.72	2.00	3.49	3.58	4.13	5.26	3.58
1899	3.22	4.65	2.14	3.30	3.31	3.17	4.65	1.92
1900	3.17	6.09	1.95	3.37	3.13	2.70	5.89	2.05
1901	2.92	5.24	2.10	2.72	3.05	2.75	5.52	4.61
1902	2.76	4.41	2.16	2.84	2.45	2.31	5.58	3.49
1903	3.05	2.53	3.64	3.74	2.15	2.66	5.23	1.95
1904	2.16	2.84	1.55	2.64	1.33	1.47	4.48	4.08
1905	2.07	2.10	1.69	2.45	1.64	1.74	2.77	2.11
1906	3.39	6.87	3.35	4.47	1.96	2.07	4.24	4.18
1907	2.59	4.05	2.44	3.17	1.57	2.30	3.57	2.83
Average 1898-1907	2.89	4.35	2.30	3.22	2.42	2.53	4.72	3.08
1908	2.84	8.30	3.28	3.80	1.45	1.84	3.29	1.96
Increase or decrease	-0.05	+3.95	+0.98	+0.58	-0.97	-0.69	-1.43	-1.14

The most interesting points about the above table are the very high average Fever rates amongst the Malays and the Europeans, and the low rate amongst the Tamils. In my Report upon "Fevers in Colombo" it was stated that the majority of these various Fevers are probably in reality Typhoid Fever, and the 1908 figures bear this out in a most striking manner as is shown especially in connection with the Malay Fever rates.

Another important point is the great increase in the mortality from Fevers amongst the Europeans during the last few years, the Burgher and Sinhalese rates have remained much the same with perhaps a slight tendency towards an increase whereas the Tamils, Moor, Malays and "others" rates show a distinct tendency towards a decrease the nett result for all races being as stated a tendency towards a decrease. These points are further considered under the headings of the various Fevers.

The distribution of the Fever mortality by Wards as indicated by the death returns is shown in Table XXX.

TABLE XXX.

ALL FEVERS, 1898-1908. WARD MORTALITY PER 1,000 POPULATION.

Year.	Colombo Town.	Fort and Galle Face.	Pettah.	San Sebastian.	St. Paul's	Kotahena.	New Bazaar.	Hospital.	Maradana.	Slave Island.	Colpetty.
1898	3.59	1.75	3.04	2.68	2.72	4.68	2.47	10.01*	2.11	5.63	1.96
1899	3.22	2.63	2.25	1.65	2.76	3.86	2.72	10.33	2.06	4.17	2.53
1900	3.17	1.32	1.45	1.62	1.80	5.25	1.74	12.91	1.71	3.96	2.23
1901	2.92	3.06	2.12	2.34	1.81	3.34	1.77	12.67	1.53	5.16	2.17
1902	2.76	3.06	1.59	1.26	2.54	2.90	2.29	10.86	1.94	4.59	1.52
1903	3.05	0.44	1.72	1.54	1.97	3.59	2.79	14.48	1.61	4.77	2.09
1904	2.16	1.75	0.53	1.42	1.06	3.82	1.83	16.39	0.97	2.14	0.79
1905	2.07	0.44	1.19	0.90	2.20	1.72	2.06	19.88	1.33	2.09	1.39
1906	3.39	2.19	0.79	2.45	1.76	2.48	2.49	26.36	2.54	3.79	2.65
1907	2.59	0.00	1.19	2.41	1.64	2.33	1.88	22.27	2.63	2.26	0.99
Average 1898-1907	2.89	1.66	1.59	1.83	2.03	3.40	2.20	—	1.84	3.86	1.83
1908	2.84	0.87	0.40	1.62	1.36	1.49	2.01	32.61	2.06	2.84	2.81
	-0.05	-0.79	-1.19	-0.21	-0.67	-1.91	-0.19	—	+0.22	-1.02	+0.98

* The rates in this column are expressed as percentage of the total deaths from Fevers in Colombo.

These ward rates are unfortunately very untrustworthy, owing to the very large percentage of the deaths from Fevers which occur in and are registered against the hospitals, and are so lost to their Wards. In 1908 for instance 32·61 per cent. of the total deaths from Fevers occurred in and were registered against the hospitals, which is by far the largest proportion which has ever occurred in the hospitals, as Table XXX. shows.

It would therefore obviously be fallacious to estimate the prevalence of Fevers in Colombo in one year compared with another, from the number of cases under treatment in the hospitals.

The statistics of the Fevers notified since 1903, (prior to which there are no records) are shown on Tables XXXI, XXXII and XXXIII. which are considered under the headings of the several fevers.

TABLE XXXI.
FEVERS, 1903-1908.

Cases notified.

Year.		Typhoid.		Suspected Typhoid.		Simple Contd. Fever.		Total.
1903	...	262	...	Nil	...	Nil	...	262
1904	...	303	...	Nil	...	Nil	...	303
1905	...	451	...	3	...	25	...	479
1906	...	903	...	45	...	42	...	990
1907	...	890	...	56	...	121	...	1067
1908	...	1344	...	26	...	251	...	1621

N.B.—This table includes Port, outside and untraced cases.

TABLE XXXII.
FEVERS 1908.

Cases notified by races.

Race.		Enteric.		Suspected Enteric.		Simple Continued Fever.		Total.		Case rate per 1,000 Population.
All races	...	1344	...	26	...	251	...	1621	...	8·99
Europeans	...	71	...	1	...	11	...	83	...	27·55
Burghers	...	200	...	4	...	30	...	234	...	18·36
Sinhalese	...	787	...	15	...	147	...	949	...	12·48
Tamils	...	115	...	2	...	22	...	139	...	3·10
Moors	...	89	...	3	...	12	...	104	...	3·18
Malays	...	19	...	1	...	10	...	30	...	5·49
Others	...	63	...	—	...	19	...	82	...	12·38

TABLE XXXIII.
Fevers cases notified by Wards.

LOCALITY.		A.	B.	C.	D.	E.	F.	G.
		Enteric cases.	Suspected Enteric.	Simple Continued Fever.	Total of A. B. C.	Case rate per 1,000 of A and B.	Case rate per 1,000 of D.	Death-rate from all Fevers.
Fort	...	4	—	—	4	1·75	1·75	0·87
Pettah	...	18	—	4	22	2·38	2·91	0·40
San Sebastian	...	39	—	5	44	3·73	4·21	1·62
St. Paul's	...	46	—	17	63	1·95	2·67	1·36
Kotahena	...	125	4	66	195	3·42	5·17	1·49
New Bazaar	...	99	1	26	126	5·03	6·34	2·01
Maradana	...	316	14	38	368	9·08	10·13	2·06
Slave Island	...	98	4	35	137	5·68	6·95	2·84
Colpetty	...	208	3	50	261	9·32	11·48	2·81
Colombo	...	953	26	241	1220	5·63	6·77	2·84
Port	...	19	—	—	19			
Outside	...	194	—	2	126			
Untraced	...	178	—	8	186			
Grand total	...	1344	26	251	1621			

20. **Typhoid or Enteric Fever.**—(including Suspected Typhoid). Cases 1,370, cases traced in Colombo 979. Case rate per 1,000, 7·06, case mortality 31·4 per cent, deaths 430. Death-rate 2·39, average death-rate for previous 10 years 0·86. Increase 1·53 per 1,000.

The death-rate from Typhoid Fever in each race since 1893 is shown on table XXXIV.

TABLE XXXIV.
 TYPHOID FEVER, 1898-1908.
Death-rate of each race per 1,000 Population.

Years.		All races.	Europeans.	Burghers.	Sinhalese.	Tamils.	Moors.	Malays.	Others.
1898	...	0·73	3·93	0·60	1·17	0·15	0·10	0·23	1·26
1899	...	0·64	3·08	0·76	0·81	0·39	0·31	0·00	0·71
1900	...	0·83	5·70	0·67	1·15	0·32	0·34	0·22	0·90
1901	...	0·60	4·49	0·58	0·66	0·37	0·30	0·22	1·51
1902	...	0·56	3·68	1·16	0·62	0·27	0·13	0·21	1·64
1903	...	0·60	1·45	1·07	0·98	0·08	0·13	0·02	0·39
1904	...	0·55	2·50	1·06	0·69	0·15	0·09	0·61	1·87
1905	...	0·80	1·41	0·97	1·16	0·29	0·41	1·00	0·88
1906	...	1·55	5·52	2·24	2·25	0·63	0·54	1·16	1·68
1907	...	1·71	3·71	1·81	2·29	0·76	1·40	1·31	1·43
Average 1898-1907	} ...	0·86	3·55	1·09	1·18	0·31	0·38	0·50	1·23
1908	...	2·39	7·64	3·04	3·29	1·12	1·41	1·83	1·66
Increase or decrease	} ...	+1·53	+4·09	+1·95	+2·11	+0·78	+1·06	+1·33	+0·43

The most noteworthy point about the Typhoid Fever statistics is the great apparent increase during the last few years, particularly the increase amongst the Europeans during the last three years.

It has already been shown that the apparent increase amongst the races other than Europeans is for the most part, if not entirely due to improved diagnosis, and not, as at first sight appears, to a genuine increase of the disease. The case of the Malays cited in paragraph 2 of this report is a striking illustration of this. This is a matter however which has been fully gone into in report No. 257 of 1908, on "Fevers in Colombo" and need not be recounted here.

Typhoid Fever amongst Europeans.—Case rate 2·35 per cent, case mortality 32 per cent, death-rate 7·64 per 1,000.

The case of the Europeans is on a different footing from that of the other races and requires special mention. Diagnosis has been, so far as one can judge from the statistics, always much more accurate amongst the Europeans than amongst the other races, for at no time have their Fever returns been vitiated to any extent by their Fever mortality being ascribed to Simple Continued Fever or Remittent Fever as in the case of the other races, and there is therefore nothing to warrant the assumption in their case, as in the case of the other races, that the increase of Typhoid amongst them is the result of improved diagnosis.

In 1908 the Europeans had the extraordinarily high Typhoid Fever death-rate of 7·64 per 1,000, an increase of 4·09 compared with the average of the previous 10 years; which is difficult to account unless indeed the estimate of the European population is very much at fault. It may be that there has been an unusual influx of Europeans into Colombo during the last three years, and the general impression appears to be that this is so, but this is a point which can only be definitely ascertained by the taking of an official Census, as there is unfortunately no record of the immigration and emigration of Europeans in Colombo. It would materially improve the accuracy of the European statistics if such a record were kept.

Assuming that the estimate of the European population is correct or even approximately correct then the extraordinary increase of Typhoid amongst them during the last three years, but particularly in 1908, is difficult to account for.

Typhoid Fever Principal Causes.—The *water supply* may in so far as Europeans are concerned safely be excluded. The *milk supply*, notoriously bad although it undoubtedly is, was so far as one can judge, no worse in 1908, than it was in previous years. Moreover it has been ascertained that no two affected families have as a rule obtained their milk supply from the same source, in many of the cases indeed the milk was said to have been obtained from a cow on the premises. Notwithstanding all this I am convinced that the milk supply is a most serious source of danger, specially to Europeans who use it more generally than any other race here. It is notoriously polluted, for the average cowman has no sort of sanitary conscience or scruples, but he is probably no worse now than he has always been, and although the milk may and probably does account for a proportion of the high *normal* incidence of Typhoid amongst Europeans, the *abnormal* increase in 1908, compared with previous years still remains to be explained.

Another source of danger in Colombo is, without doubt, *flies*, the prevalence of which all over the town appears to have been more marked of late years owing in a large measure no doubt to the climatic conditions having been especially favourable to their production. It is certain that prior to 1905, the public scavenging was very much less satisfactorily done than it has been since, and in no year has it been so well done as last year, not only so but it is only within the last year or so that there have been special cleansing gangs for the cleansing of neglected private premises, all of which tends to indicate that the special prevalence of flies has been the result not of a filthier condition of the town but of particularly favourable climatic conditions. For six years in succession now the annual rainfall has been below the average, and last year it was no less than 25·9 inches less than the average (see Diagram I.) which may in some measure explain the unusual prevalence of flies.

It is possible that a certain amount of infection has been conveyed by *dust*, but in view of the rapidly destructive effect of exposure to sunlight and dessication upon the Typhoid bacillus it is improbable this is at all a common mode of infection of either Europeans or any other race.

Infection by *direct or indirect contact* is beyond question one of the most common modes of infection. The evidence in several of the European cases, and in an enormous number of the cases amongst the other races points to contact as having been the mode of infection.

For further information in regard to the etiology, preventive measures, &c., of this disease reference is requested to Report No. 257 of 1908, on "Fevers in Colombo."

Typhoid Fever preventive measures.—The *preventive measures* which have been previously recommended may be summarised shortly as follows :—

For young adult Europeans, who are peculiarly susceptible, Anti-typhoid inoculation should be resorted to, and all intending immigrants should protect themselves by this measure prior to leaving England.

Every care should be exercised in avoiding contact with known cases of infection, and where this is impossible the most scrupulous care should be observed in washing and disinfecting the hands immediately after leaving the sick room, and before partaking of food.

The most rigid supervision should be exercised over all the domestic arrangements, particularly those connected with the food supply.

The milk above all other sources of food supply should be scrutinised, it should be obtained by preference from a registered dairy, and should be delivered in bottles sealed with a good seal, not in cans which can be tempered with, and it should invariably be boiled immediately before use no matter what its source may be. There is a very great element of danger in obtaining the milk supply from an itinerant vendor or unregistered cowman even although he brings the cow to be milked on the premises, unless the whole process of milking is kept under the direct personal observation of the house-keeper from start to finish. To entrust this duty to any of the servants is to court disaster.

It would be a wise precaution to eschew the use of fresh milk altogether unless it can be taken in the freshly boiled condition, and in this connection a word of warning is necessary as regards the use of milk in other peoples houses. I have known of instances where hostesses have served out to their visitors unboiled milk which although supposed to have been obtained from a cow on the premises, was found upon enquiry to have been on occasion obtained from a roadside boutique. The use of such milk is obviously fraught with danger, and such instances may well have been the means of helping the spread of Typhoid Fever. Where uncooked vegetables, *e.g.*, lettuces and celery are used, the greatest care should be observed in washing them before use.

When visiting or travelling, what has been said about the danger of unboiled milk, and uncooked vegetables should be borne in mind.

In the course of many enquiries into the source of infection in Typhoid Fever I have frequently been struck with the fact that although it is true that in several instances infection has found its way into houses where the most scrupulous care was observed, in others there was evidence of the most extraordinary carelessness, so much so indeed that one was forcibly reminded of Professor Osler's dictum that "Typhoid Fever is every where an index of the sanitary intelligence of a community."

Typhoid Fever Ward distribution.—Before leaving the question of Typhoid Fever reference may be made to Table XXXV. which shows the distribution by Wards, as indicated by the returns.

TABLE XXXV.
TYPHOID FEVER, 1898-1908.
Ward mortality rate per 1,000 Population.

YEAR.	Colombo Town.	Fort and Galle Face.	Pet ah.	San Sebastian.	St. Paul's.	Kotabena.	New Bazaar.	Hospitals.	Maradana.	Slave Island.	Colpetty.
1898	0.73	0.87	0.00	0.00	0.05	0.11	0.12	32.1	0.28	0.62	0.77
1899	0.64	1.31	0.26	0.21	0.15	0.74	0.29	38.1	0.34	0.18	0.46
1900	0.83	0.87	0.26	0.54	0.05	1.12	0.40	32.8	0.50	0.29	0.67
1901	0.60	1.31	0.26	0.63	0.14	0.26	0.39	50.5	0.19	0.35	0.27
1902	0.56	2.18	0.13	0.10	0.24	0.46	0.27	42.9	0.28	0.22	0.31
1903	0.60	0.00	0.00	0.00	0.14	0.20	0.10	62.3	0.43	0.28	0.30
1904	0.55	0.43	0.00	0.20	0.00	0.33	0.16	56.5	0.39	0.32	0.14
1905	0.80	0.00	0.26	0.00	0.17	0.69	0.31	37.5	0.50	0.69	0.86
1906	1.55	1.31	0.00	0.59	0.22	1.26	0.26	49.4	1.06	0.63	0.98
1907	1.71	0.00	0.26	1.25	0.86	1.55	0.71	32.3	2.02	0.82	0.59
Average 1898-1907	0.86	0.83	0.14	0.35	0.20	0.67	0.30	—	0.60	0.44	0.54
1908	2.39	0.44	0.40	1.24	1.27	1.06	1.71	37.4	1.73	1.62	2.33
Increase or Decrease	+1.53	-0.39	+0.26	+0.89	+1.07	+0.39	+1.41	—	+1.13	+1.18	+1.79

* The rates in this column are expressed as percentages of the total deaths from Typhoid.

It will be seen that 37·4 per cent of the total deaths from Typhoid occurred in and were returned against the Hospitals. This vitiates the Ward returns to such an extent that they cannot safely be used as an index of the relative incidence in one Ward compared with that in another, or in one year compared with another.

Typhoid Fever age distribution.—Table XXXVI. shows the distribution of Typhoid Fever cases by races and age, from which it will be seen that out of the total of 71 cases amongst Europeans no less than 34, or 47 per cent occurred between the ages of 20 and 30, which is the age period during which most Europeans arrive in the Island for the first time. Only two cases occurred during the 10 to 20, and only 16 during the 30 to 40 age period.

TABLE XXXVI.

DISTRIBUTION OF ENTERIC CASES IN RESPECT OF AGE—RACE AND SEX, 1908.
(INCLUSIVE OF PORT AND OUTSIDE CASES).

RACE.	SEX.	5 years.	5 years to 10 years.	10 years to 15 years.	15 years to 20 years.	20 years to 25 years.	25 years to 30 years.	30 years to 35 years.	35 years to 40 years.	40 years to 50 years.	50 years to 60 years.	60 and over.	All ages.	Total of each Race.	Case rate per 1,000 population.	Deaths.	Case mortality per cent.	Mortality per 1,000 population.
		0	5 years to 10 years.	10 years to 15 years.	15 years to 20 years.	20 years to 25 years.	25 years to 30 years.	30 years to 35 years.	35 years to 40 years.	40 years to 50 years.	50 years to 60 years.	60 and over.	All ages.	Total of each Race.	Case rate per 1,000 population.	Deaths.	Case mortality per cent.	Mortality per 1,000 population.
All Races ...	Males ...	49	105	106	161	148	99	48	40	29	12	4	801	1,344	7·46	408	30·4	2·26
	Females ...	34	77	97	95	86	62	31	26	77	6	2	543					
Europeans.	Males ...	2	2	...	...	16	13	8	5	6	2	...	54	71	23·57	23	32·4	7·64
	Females ...	1	1	...	2	2	3	2	1	4	1	...	17					
Burghers ...	Males ...	11	21	24	16	12	11	9	3	5	2	...	114	200	15·61	38	19·0	2·97
	Females ...	8	7	15	20	15	10	8	...	3	...	...	86					
Sinhalese ...	Males ...	30	70	59	90	77	48	21	18	13	5	2	433	787	10·35	234	29·7	3·08
	Females ...	23	55	63	58	54	40	17	20	19	4	1	354					
Tamils ...	Males ...	2	3	13	24	11	9	6	8	3	1	1	81	115	2·56	49	42·6	1·09
	Females ...	...	6	5	7	8	4	2	1	...	1	...	34					
Moors ...	Males ...	1	7	8	12	7	7	2	4	1	1	1	51	89	2·72	44	49·4	1·35
	Females ...	1	6	12	4	7	4	...	2	1	...	1	38					
Malays ...	Males ...	1	2	1	2	1	...	...	...	1	...	...	8	19	3·47	9	47·4	1·64
	Females ...	1	2	2	3	...	1	1	1	...	...	...	11					
Others ...	Males ...	2	...	1	17	24	11	2	2	...	1	...	60	63	9·51	11	17·5	1·67
	Females ...	...	...	...	1	...	...	1	1	...	...	...	3					

21 **Simple Continued Fever.**—Deaths 33. Ratio 0·18. Average rate for previous 10 years 0·96. Decrease 0·78 per 1,000.

244 cases of "Simple Continued Fever of over seven days duration" were notified during the year. Enquiry into these cases showed that beyond question the great majority of them were nothing more nor less than Typhoid Fever, some of them were indeed typical cases of Typhoid, and after they had been sent to the Hospital were notified as such. There can be no doubt that a great deal of genuine Typhoid Fever in years gone by has been obscured in the returns under the above heading. The steady reduction in the mortality ascribed to this cause of deaths shown on Table XXXVII. has come about as the result of the recognition of the specific nature of these Fevers, and has in no small measure been responsible for the apparent increase in the prevalence of Typhoid Fever.

TABLE XXXVII.

SIMPLE CONTINUED FEVFR, 1898-1908.

Death-rate of each race per 1,000 Population.

Year.	All races.	Europeans.	Burghers.	Sinhalese.	Tamils.	Moors.	Malays.	Others.
1898 ...	1·24	0·00	0·69	0·96	1·39	1·73	3·33	1·26
1899 ...	1·14	0·77	0·34	1·20	1·00	1·34	2·79	0·71
1900 ...	1·32	0·38	0·76	1·39	1·47	0·94	4·08	0·90
1901 ...	1·43	0·00	1·18	1·41	1·25	1·27	4·85	2·16
1902 ...	1·15	0·36	0·58	1·15	0·99	1·15	4·29	1·23
1903 ...	1·31	0·36	0·74	1·71	0·98	0·83	3·78	0·58
1904 ...	0·58	0·00	0·24	0·72	0·28	0·52	2·26	0·75
1905 ...	0·29	0·35	0·24	9·26	0·27	0·29	1·00	0·35
1906 ...	0·83	1·38	0·80	1·07	0·62	0·44	1·37	0·67
1907 ...	0·28	0·28	0·24	0·25	0·21	0·28	1·50	0·16
Aveaage 1898-1907 ...	2·96	0·36	0·58	1·01	0·85	0·88	2·93	0·88
1908 ...	0·18	0·00	0·08	0·30	0·04	0·06	0·91	0·00
Increase or decrease ...	—0·78	—0·36	—0·50	—0·71	—0·81	—0·32	—2·01	—0·88

TABLE XXXVIII.

SIMPLE CONTINUED FEVER, 1908—CASES NOTIFIED.

Race.		Cases.
Europeans	...	11
Burghers	...	28
Sinhalese	...	145
Tamils	...	35
Moors	...	10
Malays	...	12
Others	...	3
Total	...	244

Note.—In seven cases notified as Simple Continued Fever the diagnosis was ultimately altered by the notifying physicians to Typhoid Fever.

It will be seen from Table XXXVII. that the progressive reduction in the number of deaths ascribed to Simple Continued Fever has taken place in all races except the Europeans, amongst whom it has never figured largely as a cause of deaths except in 1906, a year of unusual prevalence of Typhoid Fever. The reduction in the case of the Malays is the most striking example of the change which has occurred in this respect, the fact being that Typhoid has always been very prevalent amongst the Malays, but it is only within the last few years that the specific nature of their ill-ness has been recognised.

It is pretty generally recognised amongst the Medical profession now that there is no such disease as Simple Continued Fever of over seven days duration and which frequently ends fatally, and an examination of the statistics indicates that before long this term will in all probability have practically disappeared from the returns.

Over 50 per cent of all the cases notified in 1907, and 46 per cent in 1908, were notified by the same practitioner.

22. **Remittent Fever.**—Deaths 49. Ratio 0·27. Average for the previous 10 years 1·04. Decrease 3·77 per 1,000.

The term Remittent Fever as commonly used, indicates a type of Malarial Fever. Much of the mortality ascribed in the past to Remittent Fever was almost certainly not Malarious at all but simply Typhoid Fever. There is very little if any Malarial Infection acquired in Colombo, there being an almost if not an entire absence of the Malaria carrying species of anopheles here. Certainly the Malays who for the most part live in Slave Island are less exposed than any other race to Malarial Infection, and yet in years gone by they have had more mortality ascribed to Remittent Fever than almost any other race.

As Table XXXIX. and Diagram V. show this disease has been rapidly decreasing as a certified cause of deaths during the last year or two. The explanation here is the same as in the case of Simple Continued Fever, *viz.*, it is being recognised that many of these cases of so called Remittent Fever, are in reality Typhoid Fever and hence the Typhoid Fever, death-rate has been augmented as the result of the altered diagnoses.

TABLE XXXIX.

REMITTENT FEVER, 1898–1908.

Death-rate of each race per 1,000 Population.

Year.	All races.	Europeans.	Burghers.	Sinhalese.	Tamils.	Moors.	Malays.	Others.
1898	1·52	0·00	0·68	1·16	1·93	2·20	1·19	1·00
1899	1·37	0·00	1·02	1·21	1·86	1·49	1·86	0·47
1900	0·93	0·00	0·50	0·76	1·17	1·32	1·58	0·22
1901	0·84	0·74	0·33	0·62	1·28	1·16	0·44	0·43
1902	1·03	0·36	0·41	1·05	1·14	1·18	1·07	0·61
1903	1·11	0·72	0·49	1·01	1·09	1·69	1·05	0·98
1904	0·99	0·35	0·24	1·21	0·84	0·85	1·64	1·49
1905	0·97	0·35	0·48	1·01	1·06	1·03	0·80	0·89
1906	1·00	0·00	0·32	1·45	0·72	1·12	1·75	1·85
1907	0·61	0·33	0·39	0·61	0·60	0·62	0·56	1·11
Average 1898–1907	1·04	0·29	0·49	1·01	1·17	1·27	1·19	0·91
1908	0·27	0·66	0·16	0·21	0·29	0·34	0·55	0·30
Increase or decrease	—0·77	+0·37	—0·33	—0·80	—0·88	—0·93	—0·64	—0·61

Section III.

23. Notifiable Infectious Diseases.—The diseases which are required by law to be notified are Plague, Cholera, Small-pox, Chicken-pox, Measles, Diphtheria, Acute or Choleraic Diarrhœa, Typhoid or Enteric Fever, and Simple Continued Fever of over seven days duration. Table XL. shows the number of cases of each of these diseases notified during the several months of the year and also the case rates, the deaths, and the death-rates per 1,000 of the population :—

TABLE XL.

Cases of Infectious Diseases reported during the month of the year 1908, exclusive of those reported from the Port, with the mortality from the same causes.

DISEASE.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total for the year.	Case rate per 1,000 Population.	Deaths.	Case mortality per cent.	Death-rate per 1,000 Population.
Plague ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cholera ...	1	1	1	3	1	—	3	3	1	—	12	4	30	0·16	22	73·03	0·12
Small-pox ...	—	2	1	—	—	—	23	69	72	131	75	59	438	2·43	88	20·01	0·49
Chicken-pox ...	52	86	121	74	21	12	8	17	18	32	32	70	543	3·01	—	—	—
Measles ...	40	29	28	51	51	47	27	29	70	67	103	124	666	3·69	7	1·05	0·04
Diphtheria ...	2	—	1	1	—	1	—	1	—	—	1	—	7	0·04	4	57·1	0·02
Acute Diarrhœa ...	3	2	6	12	10	16	9	1	—	4	16	6	85	0·47	1*	—	—
Typhoid Fever ...	61	53	90	92	135	128	172	141	102	105	122	124	1,325	7·35	408	30·8	2·27
Suspected Typhoid ...	3	1	1	—	1	3	2	1	5	3	4	2	26	0·14	22	84·6	0·12
Simple Continued Fever	14	17	17	28	22	24	24	24	24	16	26	15	251	1·39	33	13·2	0·18
Total ...	176	191	266	261	241	231	274	286	292	358	391	404	3,371				

* Acute Diarrhœa is not as a rule differentiated in the death returns from Diarrhœa.

It will be seen that there were 3,371 cases of Infectious Diseases notified during the year, all of which had to be enquired into and dealt with by this Department.

24. Plague and capture of rats.—As hitherto the town has been fortunate in having had no case of Plague. Table XLI. shows the number of rats captured, which is somewhat in excess of the number captured in 1907 (55,689) :—

TABLE XLI.

RATS CAPTURED AND DESTROYED DURING, 1908.

1st Quarter ...	17,103
2nd „ ...	13,732
3rd „ ...	14,661
4th „ ...	13,019
Total ...	58,515

25. Cholera.—31 cases. 22 deaths. Cases mortality (exclusive of one case from the Port) was 73·3 per cent. Death rate 0·12 per 1,000.

Of the 31 cases, 18 occurred in the Prisons, one in the Lunatic Asylum, one was landed from a Steamer, and only 11 were from the town.

The first case in the town developed symptoms on 25th December, 1907, he was a servant who had arrived a few days previously from India with a member of the Madras Cricket team. The first seven cases were widely distributed as regards time and place of residence ; up till 4th November, only 15 cases had occurred. At this time a series of cases occurred in Welicadde Jail.

The source of infection in cases of Cholera is as a rule extremely difficult to trace, especially the source of the first few cases. There is I understand some reason for believing on Bacteriological grounds that the specific infection of Cholera is always present here but not in a virulent form, and it is only now and then when conditions become favourable that it assumes a virulent form and causes an outbreak. I have seen something similar stated in respect of Cholera outbreaks in Manilla. On the other hand there is some evidence pointing to the importation of the contagion from India, dry and salt fish being the article upon which most suspicion falls. The importation of fish as manure has certainly increased the danger in this respect, and as suggested in the Report for 1907, this danger would probably be to a large extent eliminated if it were made illegal to import fish as manure unless it had first been pulverised, a process which it has I believe to undergo in any case before it can be used as manure. I would again suggest that this point be brought to the notice of Government for consideration.

In addition to the 31 cases reported as Cholera there were 85 cases of Acute Diarrhœa notified. The incidence, &c., of Cholera and Acute Diarrhœa are shown on Tables XLII., XLIII. and XLIII.a :—

TABLE XLII.

CHOLERA CASES REPORTED, 1903-1908.
Exclusive of cases from the Port.

Year.	Cases notified.		Case rate per 1,000 Population.		Port and outside cases.
1903	...	1	...	0·006	—
1904	...	1	...	0·006	3
1905	...	—	...	—	—
1906	...	1	...	0·006	3
1907	..	29	...	0·156	2
1908	...	30	...	0·166	1

TABLE XLIII.

ACUTE DIARRHŒA AND CHOLERA CASES, 1906, 1907 AND 1908.
Exclusive of cases from the Port.

Month.	1906.				1907.				1908.			
	Acute Diarrhoea.		Cholera.		Acute Diarrhoea.		Cholera.		Acute Diarrhoea.		Cholera.	
January	...	—	...	—	...	3	...	22	...	3	...	1
February	...	—	...	—	...	—	...	3	...	2	...	1
March	...	—	...	—	...	1	...	1	...	6	...	1
April	...	—	...	—	...	1	...	—	...	12	...	3
May	...	1	...	—	...	—	...	—	...	10	...	1
June	...	1	...	—	...	—	...	2	...	16	...	—
July	...	—	...	—	...	3	...	—	...	9	...	3
August	...	—	...	—	...	2	...	—	...	1	...	3
September	...	—	...	—	...	2	...	—	...	—	...	1
October	...	—	...	1	...	—	...	—	...	4	...	—
November	...	6	...	—	...	—	...	1	...	16	...	12
December	...	4	...	—	...	1	...	—	...	6	...	4
		—		—		—		—		—		—
		12		1		13		29		85		30
		—				—				—		
Total	...	13				42				115		
		—				—				—		

TABLE XLIII. (a)

MORTALITY FROM CHOLERA, 1898-1908.

Year.	Death.		Rate per 1,000 Population.
1898	...	6	0·038
1899	...	—	—
1900	...	—	—
1901	...	—	—
1902	...	2	0·012
1903	...	—	—
1904	...	1	0·006
1905	...	—	—
1906	...	2	0·011
1907	...	19	0·108
Average 1898-1907		3	0·018
1908		22	0·122
Increase or decrease		19	0·104

26. **Smallpox.**—438 cases. 88 deaths. Cases mortality 20·1 per cent. Death rate 0·49 per 1,000. Case rate 2·43 per 1,000 living.

This, the severest outbreak of Small-pox for many years, began with a concealed case in Slave Island in July, which is believed to have been imported from India as has usually been the case with this disease here. Before the first case was discovered, which was not until after death, the infection had got abroad, and as the result of further concealment it gradually spread to practically all parts of the town. It reached a maximum in October with 131 cases, after which it slowly but steadily declined, until by the middle of April it had practically ceased. The infection as was to be expected soon spread out into the adjoining rural districts where again as the result of concealment it continued to spread.

Fairly early in the out-break it was observed that it was not the unvaccinated children who were mostly affected, but adults who had either never been vaccinated or who had not been done since childhood. As soon as this became apparent six special Municipal Vaccinators were appointed in addition to the permanent staff of Government Vaccinators and wholesale revaccination of all those residing in or near the infected locality, was resorted to. In this way 13,150 primary and 16,140 re-vaccinations were performed being an increase of 1,286 primary, and 10,518 re-vaccination compared with 1907.

This together with the out-break in the Provinces naturally threw a great strain upon the Vaccine preparation depôt but although there was some slight unavoidable delay at times, the supply of lymph was, thanks to the Provincial Surgeon, maintained in a surprising manner.

The details of the out-break in so far as the year 1908, is concerned are shown in Tables XLIV. and XLV.

TABLE XLIV.

SMALL-POX CASES, 1903-1908.

Year.	Case notified from town.	Cases notified from the Port not included in case rate.	Case rate per 1,000 Population.
1903	7	6	0.04
1904	1	3	0.006
1905	45	9	0.25
1906	40	26	0.23
1907	49	10	0.28
1908	438	7	0.43

TABLE XLV.

SMALL-POX DEATHS, 1898-1908.

Year.	Deaths.	Death-rate per 1,000 Population.
1898	3	0.019
1899	16	0.096
1900	9	0.058
1901	29	0.185
1902	27	0.169
1903	1	0.006
1904	1	0.006
1905	17	0.101
1906	11	0.064
1907	8	0.045
Average 1898-1907	12	0.075
1908	88	0.489
Increase	76	0.414

27. **Vaccination.**—Primary 13,150. Re-vaccination 16,140. Total 29,290. Average for previous 5 years 10,491.

The details of the Vaccinations performed during the year are given in Tables XLVI. and XLVII.

TABLE XLVI.

VACCINATIONS PERFORMED BY THE GOVERNMENT VACCINATORS DURING, 1908.

Ward.	Primary Vaccination.	Re-vaccinations.	Total.
Fort, Galle Face, Pettah and San Sebastian	1425	1226	2651
St. Paul's	1943	1213	3156
Kotahena	1762	852	2614
New Bazaar	1455	1322	2777
Maradana	1614	1515	3129
Slave Island	1114	1590	2704
Colpetty	988	1084	2072
Itinerating (Colombo)	892	1720	2612
Total	11193	10523	21715
By Municipal special Vaccinators.	1957	5618	7575
Total for 1908	13150	16140	29290
Total for 1907	11864	5622	17486
Increase in 1908	1286	10518	11804

TABLE XLVII.

VACCINATIONS PERFORMED BY MUNICIPAL VACCINATORS DURING, 1908.

Ward.	Primary vaccinations.	Re- vaccinations.	Total.
Fort	...	196	196
Pettah	...	94	120
San Sebastian	...	55	83
St. Paul's	...	495	698
Kotahena	...	282	468
New Bazaar	...	812	1186
Maradana	...	1764	2417
Slave Island	...	1213	1521
Colpetty	...	538	702
Segregation Camp	...	129	139
Outside limits	...	40	45
Total	1957	5618	7575

28. **Chicken-pox.** 543 cases. No deaths. Case rate 3·01 per 1,000.

The prevalence of Chicken-pox and Measles throughout the year in no small measure complicated the question of the diagnosis of Small-pox, and the great experience in these matters of Dr. Loos the Assistant Medical Officer of Health was of the greatest service. Table XLVIII. shows the incidence of this disease since 1903.

TABLE XLVIII.

CHICKEN-POX, 1903-1908.

Year.	Cases.	Case rate per 1,000 Population.	Death.
1903	230	1·41	1
1904	274	1·65	—
1905	398	2·34	2
1906	231	1·33	—
1907	259	1·47	2
1908	543	3·01	—

29. **Measles.**—666 cases. 7 deaths. Case rate 3·69 per 1,000.

There can be little doubt that a good many of the deaths ascribed to Pneumonia and Bronchitis, as well as to some of the other causes, were primarily due to Measles.

Table XLIX. shows the incidence of this disease since 1903.

TABLE XLIX.

MEASLES, 1903-1908.

Year.	Cases.	Case rate per 1,000 Population.	Deaths.
1903	119	0·72	—
1904	278	1·67	5
1905	397	2·34	16
1906	354	2·04	4
1907	74	0·41	—
1908	666	3·69	7

30. **Diphtheria.**—7 cases. 4 deaths. Case rate 0·04 per 1,000.

There is probably more Diphtheria than the returns shew, but it is not a serious cause of deaths in Colombo.

Table L. gives the incidence since 1903.

TABLE L.

DIPHTHERIA, 1903-1908.

Year.	Cases.	Case rate per 1,000 Population.	Deaths.
1903	—	0·00	—
1904	6	0·03	4
1905	2	0·01	—
1906	10	0·05	1
1907	13	0·07	4
1908	7	0·04	4

31. **Typhoid or Enteric and Suspected Enteric Fever.**—1,370 cases. 430 deaths. Case rate 7·06 per 1,000. Case mortality 31·4 per cent. Death-rate 2·39 per 1,000.

There were 26 cases and 22 deaths ascribed to Suspected Typhoid.

For the further details of this disease see paragraph 20 and connected Tables.

32. **Simple Continued Fever of over 7 days duration.**—251 cases. 33 deaths. Case rate 1'39 per 1,000. Case mortality 13·2 per cent. Death-rate 0·18 per 1,000.

For further details of this cause of sickness see paragraph 21 and attached Tables.

33. **Rabies and seizure of stray dogs.**—The notification of Rabies is not upon a satisfactory footing. The suggestion that the work of prevention of Epizootic diseases should be undertaken by the Veterinary Surgeon in charge of a Department for this purpose was adopted by the Council and came into force from first January of this year, 1909.

Table LI. shows the number of stray dogs captured during the year.

TABLE LI.

NUMBER OF DOGS SEIZED DESTROYED, &C., DURING THE YEAR, 1908.

	Balance.	Seized.	Redeemed.	Destroyed.	Died in Pound.	Sold by Auction.	Sent to Medi-cal Colleg.	Sent to Pro-fessor Brown-ing.
Balance at the beginning of the year.	13	—	—	—	—	—	—	—
Seized during 1st Quarter ...	—	996	410	578	1	5	—	6
Balance at beginning of 2nd Quarter.	9	—	—	—	—	—	—	—
Seized during 2nd Quarter ...	—	1343	656	642	7	1	1	8
Balance at beginning of 3rd Quarter.	37	—	—	—	—	—	—	—
Seized during 3rd Quarter ...	—	1388	468	917	4	—	—	3
Balance at beginning of 4th Quarter	33	—	—	—	—	—	—	—
Seized during 4th Quarter ...	—	1163	367	792	6	3	—	1
Total ...	—	4890	1901	2929	18	9	1	18

Owing to the intolerable nuisance caused by the barking and fighting of dogs at large during the night, it was decided to put the law into operation and to seize all dogs found at large upon the streets after 9 P.M. Notwithstanding this frequent complaints continue to be received regarding the disturbance and loss of sleep which the practise of letting house dogs loose at night causes.

Some people appear to consider that unless their dogs are barking all night long, they are not safe from burglars. It is unfortunate that these owners do not recognise that dogs chained in the verandah would not only not be such a source of nuisance to their neighbours but would be a much better protection than those turned loose to roam at will away from the house, into the public streets and into other peoples compounds where they fight with other dogs and disturb the residents.

Section IV.

Food and Markets.

34. **Food.**—The inspection of food was as hitherto carried out as best it could by the Ward Inspectors whose work in this direction was however much curtailed during the latter half of the year owing to the prevalence of Small-pox.

Table LII. shows the amount of unwholesome food-stuffs seized, while Tables LVI. (b) and (c) show the number of carcasses condemned and animals rejected at the Slaughter-house as unfit for human food.

TABLE LII.

DAMAGED FOOD STUFFS SEIZED DURING, 1908.

	cwt.	qr.	lb.
Fresh fish ...	16	3	10
Dry fish ...	5	2	17½
Maladive fish ...	—	2	19
Salted fish ...	—	2	19
Pork ...	—	3	9
Beef ...	—	—	20
Mutton ...	—	—	9
Potatoes ...	4	3	21¾
Plantain ...	—	1	17
Brinjals ...	—	—	8
Mangoes ...	—	—	15
Bread ...	—	—	2
Sausages ...	—	—	25

Food-stuffs condemned at Customs.

Rice ...	27	bags.
Dry fish ...	4	„
Onion ...	3,951	„
Potatoes ...	106½	„

A quantity of Potatoes.
A quantity of Dry fish.

34 (a). **Analytical Work.**—The details of the work performed on behalf of the Council by the City Analyst and the Government Bacteriologist are shown on Tables LIII. and LIV.

TABLE LIII.

ANALYSIS MADE BY CITY ANALYST, 1908.

Nature of samples sent to Analyst.	No. of samples sent.	No. condemned.		No. passed.		No. on which report not received.	
Town water ...	146	...	—	...	146	...	—
Well water ...	88	...	83	...	1	...	4
Aerated water ...	20	...	13	...	7	...	—
Sherbert ...	23	...	1	...	22	...	—
Sugar ...	50	...	—	...	50	...	—
Flour ...	61	...	—	...	61	...	—
Bread ...	81	...	—	...	81	...	—
Butter ...	6	...	—	...	3	...	3
Opium ...	2	...	—	...	1	...	1
Metal ...	2	...	1	...	—	...	1
Soda water ...	14	...	6	...	8	...	—
Lemonade ...	4	...	2	...	2	...	—
Tonic ...	2	...	1	...	1	...	—
Chola Champagne.	1	...	—	...	1	...	—
Ginger Ale ...	1	...	—	...	1	...	—
Ginger Beer ...	2	...	—	...	2	...	—
Arrack ...	4	...	—	...	4	...	—
Condensed Milk ...	1	...	—	...	1	...	—
Tank water ...	1	...	1	...	—	...	—
Ghee ...	1	...	—	...	1	...	—
Jam ...	1	...	—	...	1	...	—
Muscat ...	6	...	—	...	6	...	—
Cake ...	7	...	—	...	7	...	—
Sweets ...	84	...	11	...	73	...	—
Jaggery ...	8	...	—	...	8	...	—
Glass ...	3	...	—	...	3	...	—
Vinegars and Sauces	2	...	—	...	2	...	—
Tinned provisions.	6	...	—	...	6	...	—
Gin ...	1	...	—	...	1	...	—
Scraping of internal wall of Cylinder of Aerated water Manufacture ...	1	...	—	...	—	...	1
Total ...	630	...	119	...	501	...	10

TABLE LIV.

34 (b). **Bacteriological examination of Town water by Director Bacteriological Institute** during, 1908 :—

	1st Quarter.	2nd Quarter	3rd Quarter	4th Quarter.
No. of Bacteria per C. C. of water (Agarplate) ...	102	102	112	248
No. of Bacteria per C. C. of water (Gelatine plate) ...	102	160	256	304
Bacillus Coli ...	Absent	Absent	Absent	Absent
Bacillus Enteri-tides Sporo- genes ...	Absent	Absent	Absent	Absent
Typhosus ...	Absent	Absent	Absent	Absent
Cholera Vibrio ...	Absent	Absent	Absent	Absent
Streptococci ...	Absent	Absent	Absent	Absent
Germs liquefying gelatine ...	Nil	15 %	Nil	Nil

35. **Water.**—As the data given in the previous paragraph indicate the analyses of the town water showed it to be good and wholesome throughout the year.

The lack of pressure is however a constant source of complaint from householders, and at times complaints have been received of the large amount of suspended matter present.

These are matters which are under consideration.

The highly polluted condition of the Wells in Colombo is shown by the results of the analyses given in Table LIII. A matter for special consideration is that of the Public Bathing Wells. These are for the most part highly polluted. As however they have for many years been a source of income to the possessors, and as the town supply is insufficient to take their place they have been left alone, except for the treatment with Permanganate of Potassium. This measure is however quite inadequate to maintain the water in a condition of purity as the drainage area is invariably grossly polluted. A more abundant supply of town water is becoming a matter of even increasing urgency.

36. **Markets.**—The Public Markets in Colombo afford an example of one of the most distressingly insanitary conditions in the town but an effort is being made to improve them. The new meat stalls in Dean's road Market are all that could be desired, and the only fear is that the tenants will not live up to them, as it is extremely difficult to make these stallholders keep their stalls in a clean condition.

The question of a reorganisation of the arrangements for flushing markets is under consideration.

37. **Offensive and dangerous trades.**—Table LV. shows the No. of licenses issued.

TABLE LV.

LIST OF LICENSES ISSUED FOR THE FOLLOWING TRADE PURPOSES DURING, 1908.

Month.	Manure.	Timber & firewood.		Cotton.		Dyeing.		Straw.		Soap.	
January ...	4	...	—	...	4	...	—	...	5	...	1
February ...	3	...	30	...	4	...	4	...	6	...	—
March ...	3	...	19	...	—	...	6	...	4	...	1
April ...	3	...	4	...	—	..	2	...	—	...	—
May ...	—	...	—	...	3	...	—	...	—	...	—
June ...	1	...	18	...	2	...	—	...	—	...	1
July ...	—	...	15	...	—	...	—	...	—	...	1
August ...	—	...	18	...	—	...	—	...	—	...	1
September ...	—	...	1	...	3	...	—	...	—	...	—
October ...	1	...	—	...	—	...	—	...	—	...	—
November ...	—	...	6	...	—	...	—	...	2	...	—
December ...	—	...	6	...	—	...	1	...	2	...	—
Total ...	15		117		16		13		19		5

38. **Slaughter House.**—The details of the animals slaughtered, &c., are shown on Table LVI. (a), (b) and (c).

There was a falling off in the number of animals slaughtered, which the Veterinary Surgeon attributes to the prevalence of the Small-pox epidemic. It is at all events the case that the falling off in the number of animals slaughtered occurred chiefly during the last quarter when the epidemic was at its highest.

TABLE LVI.

SLAUGHTER-HOUSE RETURNS DURING 1908, DEMETAGODA SLAUGHTER-HOUSE.

(a) Cattle, &c., slaughtered.

			Cattle.		Sheep & Goats.		Pigs.
1st Qurrter ...	...	...	5,715	...	14,747	...	392
2nd Quarter ...	...	...	5,786	...	15,987	...	455
3rd Quarter ...	...	...	5,899	...	15,873	...	423
4th Quarter ...	...	...	5,482	...	15,700	...	443
Total ...			22,882	...	62,307	...	1,713

(b) CARCASSES, LIVERS, &C., CONDEMNED AND ANIMALS FOUND DEAD.

QUARTER.	Carcases condemned and Nature of Disease.					Animal found Dead.		Liver Condemned.								TOTAL.
	Cattle.				Pigs.			Nature of Animal.			Nature of Disease.					
	Sarcocystis.	Cysticercus	Tuberculosis.	Total.		Cysticercus.	Cattle.	Sheep & Goats.	Cattle.	Sheep & Goats.	Pigs.	Hydatids.	Flukes.	Cysticercus.	Congestion.	
First Quarter ...	6½	11¾	—	18¼	—	4	1	139	5	—	138	1	5	—	144	
Second do ...	16	8	—	24	2	1	—	219	2	2	212	—	10	1	223	
Third do ...	21¼	11	1	33¼	3	—	—	177	3	—	173	5	2	—	180	
Fourth do ...	14½	7½	—	22	—	3	—	206	3	—	202	4	1	2	209	
Total ...	58¼	31¼	1	97½	5	8	1	741	13	2	725	10	18	3	756	

(c) RETURN OF CATTLE REJECTED.

QUARTER.	Indian		Ceylon.		Nature of Disease.				TOTAL
	Black.	Buffalo.	Black.	Buffalo.	Sores and Abscess.	Rheumatism.	Rinderpest.	Old and wasted.	
First Quarter ...	250	21	29	106	1	—	4	401	406
Second do ...	242	22	10	62	7	2	—	327	336
Third do ...	370	26	36	98	4	3	—	523	530
Fourth do ...	113	8	30	42	—	3	—	190	193
Total ...	975	77	105	308	12	8	4	1441	1465

It will be seen from Table (c) that 1,441 animals were rejected as unfit for slaughter on the grounds that they were too old and wasted. It is hoped that in time this measure of rejecting old and wasted animals will induce the butchers to produce a better class of animal for slaughter.

39. **Dairies.**—There were 35 dairies on the Register at the end of the year which is the same as in 1907. The registration of six was cancelled during the year, while six new registrations were granted, of which latter five were in Colpetty and one in Kotahena. The registration of three of the St. Paul's and three of the Colpetty dairies was cancelled owing to their insanitary condition.

The sanitary standard of the dairies in Colombo has been considerably improved but they require constant watching as dairy-men appear as a rule to be utterly devoid of sanitary intelligence or conscience in the matter of protecting the milk from pollution.

Table LVII. gives the details of registration during 1908.

TABLE LVII.

REGISTRATION DAIRIES, 1908.

Ward.	No. on register at end of 1907.		No. registered during 1908.		No. discontinued during 1908.		Total at end of 1908.	
Fort	...	—	...	—	...	—	...	—
Pettah	...	—	...	—	...	—	...	—
San Sebastian	...	—	...	—	...	—	...	—
St. Paul's	...	6	...	—	...	3	...	3
Kotahena	...	2	...	1	...	—	...	3
New Bazaar	...	4	...	—	...	—	...	4
Maradana	...	8	...	—	...	—	...	8
Slave Island	...	2	...	—	...	—	...	2
Colpetty	...	13	...	5	...	3	...	15
Total	...	35		6		6	...	35

40. **Laundries.**—There were 304 laundries on the register at the end of the year. The vast majority of these laundries are far from satisfactory. The dhoby as a rule, is or appears to be a very poor man, the result being that he lives and carries on his trade in a wretched hovel of a house. The washing is for the most part done in the lake, the water of which as is well-known is little better than sewage, a certain number wash in the various canals, and a very small number use well water, the only dhobies who use town water are those who use the Beira Municipal tanks, but they change the water so infrequently that I question whether it is much if any better than the lake water. Nothing short of a steam laundry under official control, as in the case of the laundry at the Welikada Jail, will I believe effect a material improvement in this matter of clothes washing. Unsatisfactory although the existing laundry methods undoubtedly are I do not believe the dhoby plays any very material part in the spread of Infectious Diseases such as Typhoid Fever, but it must of course be admitted that cases may on occasion be conveyed in this manner and an effort is being made to raise the standard of laundry work.

Table LVIII. gives the details of registration during 1908.

TABLE LVIII.

LAUNDRY REGISTRATION 1908. NUMBER ON REGISTER AT END OF YEAR.

Fort	...	Nil.
Pettah	...	27
San Sebastian	...	7
St. Paul's	...	Nil.
Kotahena North	...	19
Kotahena South	...	22
New Bazaar	...	56
Maradana North	...	31
Maradana South	...	42
Slave Island	...	30
Colpetty North	...	60
Colpetty South	...	10
Total	...	304

41. **Bakeries.**—There were 50 bakeries on the register at the end of the year. The sanitary condition of bakeries has improved more than that of almost any other food trade.

The use of clean white aprons by the workmen is rigidly enforced and whenever this precaution is omitted prosecution is entered. The following measures are also insisted upon. The floor must be cemented, the kneading room must be well lighted and ventilated, and the roof must have a dust proof ceiling, there must be a store for the flour with a cement floor, there must be no latrine near the kneading room, and everything which pertains to the bakery must be kept scrupulously clean. There are of course exceptions which call for prosecution from time to time, but the bakers are as a class far more amenable to sanitary rules than the dairymen for example.

Table LIX. shows the distribution of the bakeries at the end of 1908.

TABLE LIX.

REGISTRATION OF BAKERIES, 1908.

Month.	Fort.	Pettah.	San Sebastian.	St. Paul's.	Kotahena.	New Bazaar.	Maradana.	Slave Island.	Colpetty.	Total.
January	—	—	—	—	—	—	1	—	—	1
February	1	1	—	—	—	—	—	—	1	3
March	—	3	—	—	1	—	2	—	—	6
April	2	—	1	5	3	3	1	4	3	22
May	—	—	—	—	—	—	—	—	—	—
June	—	—	—	1	1	—	1	—	—	3
July	—	—	—	1	—	—	—	—	—	1
August	—	—	1	—	—	1	4	2	—	8
September	—	—	—	—	2	1	—	1	—	4
October	—	—	1	—	—	—	—	—	—	1
November	—	—	—	—	—	—	—	—	—	—
December	—	—	—	—	—	—	—	1	—	1
Total	3	4	3	7	7	5	9	8	4	50

42. **Eating Houses.**—There are eating houses scattered all over the town, and as they are constantly being closed or moved elsewhere and new ones being started, the registration is a matter of some difficulty and probably does not truly represent the total number of eating houses in the town. A great deal of attention is paid to the sanitary condition of these eating houses with the result that on the whole they are kept in a fairly cleanly condition, some of them are indeed remarkably cleanly conducted.

Many of the smaller ones however which cater for the poorer classes require constant supervision, otherwise they rapidly degenerate into abominations of filthiness.

Table LX. shows the distribution of those on the register at the end of the year.

TABLE LX.

EATING HOUSES REGISTERED DURING, 1908.

Fort	...	21
Pettah	...	70
San Sebastian	...	12
St. Paul's	...	22
Kotahena North	...	16
Kotahena South	...	4
New Bazaar	...	11
Maradana North	...	26
Maradana South	...	36
Slave Island	...	24
Colpetty North	...	9
Colpetty South	...	9
Total	...	260

Section V.

Work done by the staff.

43. It is only possible in a Report of this nature to very roughly indicate the work done by the staff. Each officer has to prepare his own statement of work from his daily reports, which are filed in the Office. It is customary in most other towns for these statements to be collated and tabulated by the Chief Sanitary Inspector, but as there is no such officer here the record as presented is far from being complete.

44. **Sanitary Inspectors.**—There are 12 Male and one Female Sanitary Inspectors upon whom, under the immediate supervision of the Assistant Medical Officer of Health, the great bulk of the out-door work of the Department devolves. There are however Special Officers for dealing with Typhoid Fever, the prevention of insect pests, and the cleansing of filthy premises, while the conservancy work constitutes an entirely separate branch of the Department.

Table LXI. gives a very condensed summary of the work performed during the year.

TABLE LXI.

WORK DONE BY WARD INSPECTORS DURING, 1908.

Nature of Work.	Fort.	Pettah.	San Sebastian.	St. Paul's	Kotahena.	New Bazaar.	Maradana.	Slave Island.	Colpetty.	Total.
No. of inspections ...	2134	5066	5936	5192	8291	4491	7729	3830	7130	49799
No. in which sanitary defects were found ...	196	1119	863	693	921	942	1151	460	751	7096
No. of notices served ...	40	424	294	222	372	385	313	223	250	2523
No. of notices voluntarily complied with ...	38	363	167	175	286	202	253	109	114	1707
No. of premises where defects were rectified after warning ...	139	842	412	843	548	479	778	135	280	4456
No. of wells closed ...	3	—	13	3	4	11	9	6	8	57
No. of cesspits closed ...	—	7	9	12	12	16	21	3	—	80
No. of houses disinfected ...	15	48	70	126	417	279	482	260	343	2040
No. of prosecutions ...	58	277	451	206	245	500	258	333	167	2495
No. of convictions ...	55	212	322	159	205	388	228	246	140	1955
No. discharged or otherwise dealt with ...	2	27	63	35	19	28	15	19	12	221
No. pending at end of quarter ...	1	38	66	29	20	97	15	68	15	349
No. of premises lime-washed by the Municipal cleansing gang ...	—	4	9	3	2	15	8	13	6	60
No. of type plan latrines erected ...	14	128	62	102	135	43	129	166	26	805
Amount of fines ...	182'50	1577'00	1921'00	905'00	1214'00	2594'96	1227'50	2165'50	806'81	*

* The total amount of fines ... Rs. 12,594'27.

It will be seen that there was a great falling off in the number of inspections paid, but the enormous number of premises visited in connection with the Small-pox outbreak are not included in this return which is therefore a very great understatement of the amount of visiting done. The primary objective was to get the work done, the recording of the work although very important as a check, takes time and is a secondary matter in times of urgency.

The record of prosecutions entered is shown in Table LXII.

TABLE LXII.

DETAILS OF PROSECUTIONS BY WARD INSPECTORS DURING, 1908.

OFFENCE.	Fort.	Pettah.	San Sebastian.	St. Paul's.	Kotahena.	New Bazaar.	Maradanr.	Slave Island.	Colpitty.	Total.
Filthy premises ...	12	120	227	65	128	293	116	171	91	1,223
Foul privies ...	1	62	35	7	13	37	3	3	...	161
Food exposed to dust and flies ...	36	24	35	41	25	9	40	14	19	243
Unregistered eating-house ...	1	7	2	4	1	3	...	...	...	18
Cattle rearing nuisance	2	22	...	3	50	10	24	5	116
Unwholesome food exposed for sale	15	13	8	13	4	5	1	16	75
Unregistered Laundry	7	6	...	1	6	19	20	2	61
Neglect to report cases of Infectious Diseases...	...	1	3	8	7	16	6	16	3	60
Overcrowding	3	...	3	...	...	...	1	...	7
Uncemented floor of eating-house	2	...	5	2	6	10	...	...	25
Burial of night-soil	1	1	...	...	...	...	...	...	2
Unlicensed hide stores	9	...	...	...	...	...	...	...	9
Obstruction of passages to public markets	9	11	...	...	...	...	8	...	28
Neglect to improve insanitary building after not cc	2	...	...	...	...	...	...	...	2
Neglect to provide additional privy accommodation	1	1	...	3	1	...	...	1	7
Resistance to a public officer	1	1	...	...	1	...	5	...	8
Filthy roadside and drain ...	7	5	8	32	7	...	2	1	2	64
Filthy eating-house	4	...	...	1	29	...	34
Filthy bakery	2	3	8	...	1	3	17
Filthy stall	43	5	3	14	11	21	6	103
Filthy dairy	2	...	1	1	4
Unlicensed bakery	3	6	1	3	5	2	...	20
Neglect to pay limewashing bills	4	1	3	1	11	6	5	2	33
Unclean workmen in bakery	1	1	1	...	4	1	3	...	11
Bakery used for other purposes	1	...	1
Depositing rubbish on roadside and drain	5	...	12	3	2	...	...	22
Illicit slaughter of animals	1	...	...	...	...	...	...	...	1
Filthy public bathing tubs	12	...	6	...	...	1	...	19
Unlicensed cattle shed	1	1	...	13	2	3	...	20
Filling up cesspit without permission	1	3	...	...	...	...	...	4
Unlicensed timber dépôt	1	...	...	...	...	1
Unlicensed manure dépôt	4	...	...	...	...	4
Unregistered laundry men	5	2	1	...	...	...	4	12
Unregistered dairymen	1	...	...	...	1	2
Unlicensed firewood dépôt	2	...	...	...	2
Rank Vegetation	3	...	...	3
Unregistered dairy	1	...	...	...	1	...	...	2
Foul tank	1	...	...	1
Digging pits without permission	1	1
Vending milk without a card...	3	2	1	...	6	...	1	13
Filthy laundry	1	...	...	...	...	...	...	1
Exposing Small-pox patient in public thoroughfare	2	...	...	...	...	...	...	2
Storing milk in unsuitable places	1	...	...	...	...	...	1
Unlicensed fish stall	1	...	...	...	1
Child committing nuisance	1	...	1	...	...	...	2
Unlicensed meat stall	1	...	...	...	...	1
Neglect to fill up well after notice ...	1	...	...	...	...	2	1	...	1	5
Neglect to report the death of an animal	1	...	...	...	1
Infectious Diseases in bakery	2	...	2
Keeping manure for over 24 hours	2	2
Removal of carcass from Slaughter-house without pass	1	1	...	...	...	...	...	2
Fouling passages in public market	1	...	...	...	...	...	...	1
Establishing a Factory without permission	1	...	...	...	...	1
Total ...	58	277	446	205	239	491	251	333	161	2,461

In addition to the work indicated in the returns given above, a considerable amount of improvement was effected in respect of the lighting, ventilating, draining, cleansing, &c., of buildings, some idea of which may be gathered from the following statement :—

TABLE LXIII.
STRUCTURAL IMPROVEMENTS EFFECTED.

		Smoke and air vents.	Skylights and windows.	Paving and cementing.	Drainage.	Latrines.	Total for each Inspector.
Inspector, Serasinghe	...	131	32	—	2	60	225
" Carnie	...	26	5	—	11	13	55
" Samahim	...	211	155	3	10	99	478
" Blacker	...	57	61	15	2	165	300
" Silva	...	862	500	27	24	338	1,751
" Karunatilleke	...	264	61	32	9	109	475
" Stöuter	...	1	36	1	1	83	122
" Ambrose	...	71	80	4	2	26	183
" Horan	...	30	—	9	5	36	80
" Davidson	...	62	49	10	2	44	167
" Abeyesekera	...	12	22	...	11	68	113
" Dabera	...	281	266	6	14	221	788
Total	...	2,008	1,267	107	93	1,262	—

All the Inspectors have not unfortunately kept a very accurate record of the structural improvements effected during, 1908, but instructions have been since issued that a careful record of this is to be kept in future. It will be seen that some of the Inspectors have been much more successful than others in this branch of the work. This is partly due to the fact that there is much more scope for improvement in some Wards than in others, and partly owing to some Inspectors being more energetic, or having greater influence over the people than others. All are however alike handicapped in these matters by the lack of specific legal powers.

45. **Special Inspectors and Overseers.**—There are four Special Inspectors now styled Sub-Inspectors whose sole duty is to deal with cases of Typhoid Fever notified to this office. Each of these Inspectors has had since 1st July, 1908, an Overseer and four Coolies, under him for the purpose of cleansing filthy compounds where cases of Typhoid Fever have occurred.

368 compounds were thus cleansed during the last six months of the year.

In addition to these there is an Overseer with 14 men under him for the purpose of lime-washing and cleansing filthy houses, and an Overseer and four Coolies for the purpose of searching out and dealing with the breeding places of flies and mosquitoes. 69 premises including several hundreds of tenements were cleansed and limewashed during the year. See Table LXIII (a).

TABLE LXIII (a).

NUMBER OF PREMISES LIMEWASHED DURING THE YEAR, 1908.

St. Paul's	...	5
Pettah	...	6
Colpetty South	...	2
Colpetty North	...	4
New Bazaar	...	13
Slave Island	...	16
San Sebastian	...	10
Kotahena North	...	2
Kotahena South	...	1
Maradana North	...	2
Maradana South	...	8

Total ... 69 premises.

46. **Steam Disinfection.**—The equifex steam disinfector worked very satisfactorily 280 loads representing 17,236 pieces of infected goods were passed through during the year, as shown in the following statement of work :—

TABLE LXIV.

STEAM DISINFECTION. 1908.

Months.	Loads.
January	8
February	9
March	14
April	26
May	17
June	30
July	32
August	31
September	28
October	29
November	33
December	23

Total for year ... 280 loads.

47. **Municipal Midwives.**—543 cases, representing 546 births, were conducted by the six Municipal Midwives during the year, an increase of 67 cases compared with 1907.

Thirty four of these 546 were stillbirths while 11 died within four days the period during which the midwives attend normal cases after birth, representing a death-rate exclusive of stillbirths of 2 per cent.

The details of this work are shown on Tables LXV. LXVI. and LXVII.

TABLE LXV.

NUMBER OF CASES CONDUCTED BY MUNICIPAL MIDWIVES DURING THE YEAR, 1908.

Name.	Division.	1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.	Total.
A. Wickramasingha ...	St. Paul's	9	8	16	11	44
M. P. Muruger ...	St. Paul's	24	15	24	27	90
Sarah Dias ...	New Bazaar	24	4	18	14	60
Agida Perera ...	Kotahena	35	27	30	36	128
Nonno Hamy ...	San Sebastian	20	26	15	18	79
Amy de Silva ...	Slave Island	47	—	—	—	47
A. M. Wickramaratna.	Slave Island	—	23	35	37	95
Total ...		159	103	138	143	543

TABLE LXVI.

STATISTICS OF CASES CONDUCTED BY MUNICIPAL MIDWIVES DURING THE YEAR, 1908.

Division.	Names of Midwife.	Burghers.		Sinhalese.		Tamils.		Moors.		Malays.		Others.		All Races.			Total Death	Death-rate per cent.
		Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Persons.	Males.	Females.		
St. Paul's ...	A. Wickramasinghe...	1	1	14	11	1	3	6	5	—	2	1	1	46	23	23	8	17.39
Kotahena ...	Agida Perera ...	4	10	45	45	7	13	3	1	—	—	—	—	128	59	69	6	4.69
San Sebastian...	Nonno Hamy ...	5	2	19	14	3	3	11	6	—	5	4	7	79	42	37	8	10.13
St. Paul's ...	M. P. Muruger ...	—	1	10	6	35	32	4	2	—	—	—	1	91	49	42	11	12.09
Slave Island ...	Amy de Silva ...	—	2	9	17	3	4	—	—	4	8	—	—	47	16	31	4	8.51
Slave Island ...	A. M. Wickramaratne	3	2	26	10	17	16	14	4	1	1	—	1	95	61	34	6	6.32
New Bazaar ...	Sarah Dias ...	6	3	16	8	6	6	6	6	—	—	3	—	60	37	23	2	3.67
Total of each sex ...		19	21	139	111	72	77	44	24	5	16	8	10	546	287	259	45	8.43
Grand total ...		40		250		149		68		21		18						

* Including three Multiple births.

TABLE LXVII.

BIRTHS AND DEATHS.

Stillbirths and deaths within four days.

Race.	Births.			Deaths including Stillbirths.			Death-rate per cent.
	Persons.	Males.	Females	Persons.	Males.	Females	
All races	546	287	259	45	28	17	8.43
Burghers	40	19	21	5	2	3	12.50
Sinhalese	250	139	111	16	9	7	6.40
Tamils	149	72	77	10	10	—	6.71
Moors	68	44	24	10	6	4	14.71
Malays	21	5	16	3	—	3	14.29
Others	18	8	10	1	1	—	5.56

Section VI.**Conservancy Branch.**

48. The work of removal and disposal of night-soil from dry-earth closets and cesspits, was as hitherto carried out by a Contractor under the supervision of this Department. As regards the actual removal of night-soil the work was on the whole satisfactorily carried out there having been fewer complaints received than previously; but as regards the cleansing of the buckets after clearance this was and for that matter always has been most unsatisfactorily done. Fines aggregating Rs. 953.30 were imposed upon the Contractor for neglect during the year.

8,984 buckets were being nightly conserved at the end of the year as against 8,356 at the end of 1907.

207 cesspits were cleared and 80 were closed during the year. The work of closure was carried out by the Council at the expense of the owners in six instances the expenses incurred being duly recovered. In two cases prosecutions had to be entered for obstructing the Council's Officers while engaged upon this duty.

The total amount of revenue collected to 31st December, was Rs. 171,127.72 as against the estimate of Rs. 165,000 and the amount due for the year of Rs. 180,563.06.

In addition to the amount collected, noted above, a sum of Rs. 1,665.10 was recovered as costs incurred by failure to pay within the required time, thus making a total recovered of Rs. 172,792.82, an excess of Rs. 7,792.82 over the estimate.

Section VII.**Staff.**

The staff worked well throughout an exceptionally arduous year. The various charges in the personnel are shown in Tables LXXVI. and LXXVII. in the appendix.

May 10, 1909.

WM. MARSHALL PHILIP, M.B., D.P.H.,
Medical Officer of Health.

TABLE LXVIII.

Causes of Deaths occurred in the Colombo Municipality during 1908.

Class.	CAUSES OF DEATHS.	Colombo Town.	WARD.										NATIONALITY.						
			Fort and Galle Face.	Pettah.	San Sebastian.	St. Paul's.	Kotahena.	New Bazaar.	Maradana Hospitals.	Maradana exclusive of Hospitals.	Slave Island.	Colpetty.	Europeans.	Burghers.	Sinhalese.	Tamils.	Moors.	Malays.	Others.
	ALL CAUSES.	6620	26	90	251	520	1007	668	1743	1082	601	562	105	386	3312	1343	1067	196	211
i	Specific febrile or zymotic diseases	1667	5	15	47	129	171	131	637	228	143	161	44	109	847	376	197	42	52
ii	Parasitic diseases	279	...	...	12	11	53	27	89	39	31	17	1	8	161	67	33	4	5
iii	Dietetic diseases	73	...	...	...	1	27	1	17	23	3	1	...	4	35	15	14	1	4
iv	Constitutional diseases	873	3	11	30	87	94	83	240	175	72	78	11	56	428	163	154	25	36
v	Developmental diseases	405	1	4	6	31	93	35	75	71	42	47	1	23	326	61	67	23	4
vi	Local diseases	2727	11	54	132	280	522	343	482	485	223	195	40	164	1318	539	501	79	86
vii	Violence	110	5	1	2	3	12	3	57	16	2	9	4	4	66	18	10	3	5
viii	Ill-defined and not specified diseases	486	1	5	22	48	35	45	146	45	85	54	4	18	231	104	91	19	19
i	Specific febrile or zymotic :—																		
	1. Miasmatic diseases	583	1	6	17	46	53	61	164	98	66	71	24	48	338	70	72	19	12
	2. Diarrhoeal diseases	922	3	7	22	70	94	55	433	95	63	80	17	52	451	260	92	15	35
	3. Malarial diseases	60	1	...	4	2	14	5	11	13	8	2	2	2	19	18	13	3	3
	4. Zoogenous diseases	2	...	1	...	...	...	...	...	...	...	1	...	1	...	...	1	...	...
	5. Venereal diseases	22	...	...	...	3	1	2	9	4	1	2	...	3	9	7	3	...	...
	6. Septic diseases	78	...	1	4	8	9	8	20	18	5	5	1	3	30	21	16	5	2
ii	Parasitic Diseases	279	...	...	12	11	53	27	89	39	31	17	1	8	161	67	33	4	5
iii	Dietetic diseases	73	...	...	...	1	27	1	17	23	3	1	...	4	35	15	14	1	4
iv	Constitutional diseases	873	3	11	30	87	94	83	240	175	72	78	11	56	428	163	154	25	36
v	Developmental diseases	405	1	4	6	31	93	35	75	71	42	47	1	23	226	61	57	23	4
vi	Local diseases :—																		
	Diseases of—																		
	1. Nervous system	955	3	20	64	108	175	155	45	207	83	95	8	47	469	183	195	35	18
	2. Organs of special sense	1	...	...	...	...	...	...	...	...	1	...	...	...	...	...	1	...	...
	3. Circulatory system	223	4	5	8	11	69	12	45	18	26	25	6	22	121	32	30	7	5
	4. Respiratory system	1047	3	24	43	123	219	128	194	188	82	43	5	56	468	244	195	29	50
	5. Digestive system	287	1	3	5	15	38	21	111	57	19	17	16	26	150	47	33	7	8
	6. Lymphatic system and ductless glands	2	...	...	...	...	1	...	...	...	...	1	...	1	1	...	...	...	...
	7. Urinary system	110	...	1	5	10	10	18	47	7	4	8	5	5	60	18	20	1	1
	8. Reproductive system																		
	a. Organs of generation	17	...	...	...	2	2	1	9	...	...	3	...	3	11	1	2	...	...
	b. Parturition	47	...	1	5	9	6	6	9	4	5	2	...	3	17	8	16	...	3
	9. Organ of locomotion	1	...	...	...	...	...	...	1	...	...	...	...	...	...	1	...	...	...
	10. Integumentary system	37	...	...	2	2	2	2	21	4	3	1	...	1	21	5	9	...	1
vii	Violence :—																		
	1. Accident or negligence	74	5	1	2	...	8	3	39	8	2	6	4	...	43	13	6	3	5
	2. Homicide	14	...	...	...	...	...	...	11	3	...	...	...	...	11	2	1	...	...
	3. Suicide	22	...	...	...	3	4	...	7	5	...	3	...	4	12	3	3	...	...
	4. Execution	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
viii	1. Ill-defined and not specified causes	486	1	5	22	48	35	45	146	45	85	54	4	18	231	104	91	19	19
	<i>Miasmatic Diseases.</i>																		
	Small-pox	88	...	2	2	11	3	19	...	29	16	6	...	5	50	13	16	4	...
	Chicken-pox	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Measles	7	...	1	...	...	1	3	...	1	1	...	...	...	5	2	...	...	...
	Whooping cough	10	...	...	1	1	5	...	...	1	1	1	...	2	5	...	3	...	...
	Diphtheria	4	...	...	...	2	...	1	1	...	...	...	1	...	1	1	1	...	...
	Cerebro-spinal fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Simple and Ill-defined fever	33	...	...	1	1	3	1	1	1	16	9	...	1	23	2	2	5	...
	Enteric fever	408	1	3	13	30	39	34	161	46	28	53	23	38	234	49	44	9	11
	Suspected Enteric fever	22	...	...	...	...	1	...	...	17	4	...	...	1	16	1	3	1	...
	Influenza	10	...	...	...	1	1	3	...	3	...	2	...	1	4	2	3	...	...
	Other epidemic diseases	1	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	1
	<i>Diarrhaal Diseases.</i>																		
	Cholera	22	...	...	...	1	...	4	8	1	3	5	...	2	13	3	3	...	1
	Diarrhoea	590	3	5	13	30	73	27	283	66	47	43	5	27	312	164	57	9	16
	Dysentery	310	...	2	9	39	21	24	142	28	13	32	12	23	126	93	32	6	18

TABLE LXIX.

Causes of Deaths occurred in each Ward, &c.—(Continued.)

Class.	CAUSES OF DEATH.	Colombo Town.	WARD.										NATIONALITY.						
			Fort and Galle Face.	Pettah.	San Sebastian.	St. Paul's.	Kotahena.	New Bazaar.	Maradana Hospitals.	Maradana exclusive of Hospitals.	Slave Island.	Colpetty.	Europeans.	Burghers.	Sinhalese.	Tamils.	Moors.	Malays.	Others.
	<i>Malarial Diseases.</i>																		
	Remittent fever	49	1	...	3	1	13	5	5	11	8	2	2	2	16	13	11	3	2
	Ague	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Malarial cachexia	11	...	...	1	1	1	...	6	2	...	...	...	...	3	5	2	...	1
	<i>Zoogenous Diseases.</i>																		
	Hydrophobia	2	...	1	...	...	...	...	...	...	...	1	...	1	...	...	1	...	...
	<i>Venereal Diseases.</i>																		
	Syphilis	18	...	...	...	3	1	2	6	3	1	2	...	2	8	5	3	...	...
	Gonorrhœa, stricture of Urethra...	4	...	...	...	...	...	...	3	1	...	...	...	1	1	2	...	...	...
	<i>Septic Diseases</i>																		
	Phagedæna	1	...	...	...	...	1	...	...	...	...	...	...	...	1	...	...	...	...
	Erysipelas	8	...	...	...	1	...	1	3	2	...	1	1	1	4	...	2	...	...
	Pyæmia and septicæmia	45	...	...	4	7	4	4	15	11	...	...	...	2	16	16	9	2	...
	Puerperal fever	24	...	1	...	...	4	3	2	5	5	4	...	...	9	5	5	3	2
	<i>Parasitic Diseases</i>																		
	Thrush	1	...	...	...	1	...	...	...	...	...	...	...	...	1	...	...	...	...
	Worms (Animal)	183	...	...	11	9	51	26	4	35	31	16	...	7	127	18	24	3	4
	Dochmius duodenalis	95	...	...	1	1	2	1	85	4	...	1	1	1	34	49	8	1	1
	<i>Dietetic Diseases.</i>																		
	Starvation, want of breast milk	71	...	...	...	1	27	...	16	23	3	1	...	4	3	15	14	1	4
	Chronic alcoholism	1	...	...	...	...	...	...	1	...	...	...	...	...	1	...	...	...	...
	Delirium tremens	1	...	...	...	...	...	1	...	...	...	...	...	...	1	...	...	...	...
	<i>Constitutional Diseases.</i>																		
	Rheumatism	5	...	...	2	1	...	1	...	...	...	...	...	1	1	1	2	...	...
	Rickets	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Cancer	26	...	...	...	3	2	1	18	...	...	2	...	4	10	7	2	...	3
	Tabes mesenterica	35	...	...	2	1	...	2	5	12	10	3	...	4	23	6	1	...	1
	Tubercular meningitis	42	...	2	...	4	4	1	21	8	1	1	2	5	19	9	6	...	1
	Phthisis	696	3	5	22	69	81	74	184	148	51	59	8	40	343	137	122	21	25
	Other forms of tuberculosis scrofula	5	...	...	...	...	...	...	1	...	2	2	...	...	3	...	...	1	1
	Purpura, hæmorrhagic diathesis...	1	...	...	...	...	1	...	...	...	...	...	...	...	1	...	...	...	...
	Anæmia, chlorosis, leucocy-thæmia	31	...	1	1	4	4	1	2	6	4	8	...	2	11	5	7	1	5
	Diabetes mellitus	22	...	1	3	3	2	3	3	1	3	3	1	...	11	3	6	1	...
	Leprosy	3	...	1	...	2	...	...	...	...	...	...	...	...	1	...	2	...	...
	Elephantiasis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Parangi	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Other and undefined constitutional diseases	7	...	1	...	...	...	...	6	...	...	...	...	...	5	1	1	...	...
	<i>Developmental Diseases.</i>																		
	Premature birth	104	1	1	...	1	25	...	40	21	6	9	1	8	70	16	4	4	1
	Spina bifida	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Imperforate anus	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Cleft palate	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Other congenital defects	3	...	...	...	...	1	...	1	...	1	...	...	...	3	...	...	...	...
	Old age	298	...	3	6	30	67	35	34	50	35	38	...	15	135	45	63	19	3
	<i>Nervous System.</i>																		
	Inflammation of the brain or its membranes	2	...	...	...	...	1	...	...	...	...	1	...	...	1	1	...	...	...
	Softening of brain	16	...	...	...	...	...	...	...	...	...	16	...	1	12	...	3	...	...
	Apoplexy	18	...	1	3	1	1	2	...	3	2	5	1	3	4	3	5	2	...
	Paralysis	80	...	1	5	9	11	12	17	13	4	8	...	9	25	17	14	4	1
	Epilepsy	10	...	1	2	1	1	1	1	2	1	...	...	1	2	3	4	...	...
	Convulsions	30	...	1	3	3	10	3	...	6	2	2	...	1	19	4	3	3	...
	Infantile convulsions	578	3	9	28	59	101	93	4	169	67	45	4	22	292	111	117	24	8
	Laryngismus stridulus	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Collapse	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Tetanus	174	...	4	23	33	43	44	11	7	4	5	1	7	74	36	48	1	7
	Mania	1	...	...	...	...	...	...	...	1	...	...	...	...	1	...	...	...	...
	Paraplegia disease of the spinal chord	6	...	1	...	...	...	...	2	...	1	2	...	1	3	2	...	...	...
	Other undefined diseases of brain...	39	...	2	...	2	7	...	9	6	2	11	2	2	25	6	1	1	2
	Other undefined diseases of nervous system	1	...	...	...	...	...	...	1	...	...	...	...	...	1	...	...	...	...

Causes of Deaths occurred in each Ward, &c.—(Continued.)

Class.	CAUSES OF DEATHS.	Colombo Town.	WARD.									NATIONALITY.							
			Fort and Galle Face.	Pettah.	San Sebastian.	St. Paul's	Kotahena.	New Bazaar.	Maradana Hospitals.	Maradana exclusive of Hospitals.	Slave Island.	Colpetty.	Europeans.	Burghers.	Sinhalese.	Tamils.	Moors.	Malays.	Others.
	<i>Organs of special Sense.</i>																		
	Conjunctivitis and other diseases of the eye	1	...	...	...	...	...	...	...	...	1	...	...	...	...	1	...	...	...
	Otitis and other diseases of the ear	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Epistaxis and other diseases of nose	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	<i>Circulatory System.</i>																		
	Paricarditis	4	...	...	...	1	...	...	3	...	...	...	...	...	3	1	...	...	...
	Morbus cordis (disease of heart)	71	2	3	5	4	7	6	15	15	5	9	3	7	23	15	16	4	3
	Valve disease of heart	6	...	...	...	...	...	...	5	...	...	1	...	1	5	...	...	...	...
	Hypertropy of heart	10	...	...	...	1	2	...	3	1	1	2	...	2	5	2	...	1	...
	Anginapectoris, syncope	6	1	...	1	1	...	...	...	...	1	2	2	...	1	1	2	...	...
	Aneurism	3	...	...	...	...	...	...	2	...	...	1	...	1	2	...	...	...	...
	Embolism, thrombosis	5	...	...	...	...	...	...	5	...	...	...	...	...	3	2	...	...	...
	Phlebitis	2	...	...	...	...	...	...	2	...	...	...	...	...	2	...	...	...	...
	Varicose veins	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Other and undefined diseases of heart or circulatory system	116	1	2	2	4	60	6	10	2	19	10	1	11	79	11	12	2	2
	<i>Respiratory System.</i>																		
	Laryngitis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Croup	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Bronchitis	239	...	3	14	44	47	50	12	37	19	13	1	13	112	44	55	6	8
	Asthma	7	...	...	...	...	2	...	...	3	1	1	...	1	4	2	...	...	...
	Pneumonia	780	3	21	29	77	170	76	177	141	57	29	4	42	347	191	137	20	39
	Pleurisy	5	...	...	...	...	...	...	3	1	1	...	...	...	1	2	...	1	1
	Other and undefined diseases of respiratory system	16	...	...	...	2	...	2	2	6	4	...	...	...	4	5	3	2	2
	<i>Degestive System.</i>																		
	Stomatitis	11	...	...	1	1	2	3	1	2	...	1	...	1	5	1	4	...	...
	Dentition	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Quinsy	2	...	...	...	1	...	1	...	...	...	...	...	1	...	...	1	...	...
	Sore throat	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Dyspepsia	1	...	...	...	...	...	...	...	1	...	...	...	...	1	...	...	...	...
	Hæmatemesis	1	...	...	...	...	...	...	...	...	1	...	...	...	1	...	...	...	...
	Malæma	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Disease of Stomach	2	...	...	...	...	...	...	...	...	1	1	...	...	...	1	1	...	...
	Enteritis	115	...	1	2	4	19	6	28	41	7	7	...	9	75	12	13	4	2
	Ulceration of intestines	4	...	...	...	...	...	...	...	...	...	4	...	1	2	1	...	...	...
	Ileus obstruction of intestines	13	...	1	2	1	1	...	4	...	1	3	1	...	5	3	3	...	1
	Debility	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Stricture or stangulation of intestine	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Intussnsception of intestine	1	...	...	...	1	...	...	...	...	...	...	...	...	...	...	1	...	...
	Hernia	12	...	1	...	...	...	2	8	...	1	...	1	...	8	1	2	...	...
	Fistula	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Peritonitis	38	...	...	...	4	1	3	22	7	1	...	2	5	17	9	3	1	1
	Ascites	9	...	...	...	...	5	2	1	...	1	...	...	...	4	2	2	...	1
	Gallstones	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Cirrhosis of liver	36	1	...	...	2	2	4	24	...	1	1	1	4	19	8	1	...	3
	Other diseases of liver	28	...	...	...	1	2	...	21	2	1	1	10	2	9	5	...	2	...
	Other and undefined diseases of digestive system	14	...	...	...	...	6	...	2	2	4	...	1	3	4	3	3	...	...
	<i>Diseases of Lymphatic System and Ductless Glands.</i>																		
	Diseases of the lymphatic system.	2	...	...	...	...	1	...	...	...	...	1	...	1	1	...	...	...	...
	Diseases of spleen	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	<i>Diseases of Urinary System.</i>																		
	Nephritis	49	...	1	5	6	5	14	11	5	1	1	1	2	22	6	17	...	1
	Bright's disease	52	...	...	...	2	3	4	32	2	2	7	4	3	33	9	2	1	...
	Uræmia	1	...	...	...	...	...	...	1	...	...	...	...	...	1	...	...	...	...
	Suppression of Urine	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Calculus (stone )	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Hæmaturia	1	...	...	...	1	...	...	...	...	...	...	...	...	...	1	...	...	...
	Diseases of Bladder	2	...	...	...	1	...	...	1	...	...	...	...	...	1	...	1	...	...
	Other and undefined diseases of urinary system	5	...	...	...	...	2	...	2	...	1	...	...	...	3	2	...	...	...

Causes of Deaths occurred in each Ward, &c.—(*Continued.*)

Class.	CAUSES OF DEATHS	Colombo Town.	WARD.									NATIONALITY.							
			Fort and Galle Face.	Pettah.	San Sebastian.	St. Paul's	Kotahena.	New Bazaar.	Maradana Hospitals.	Maradana exclusive of Hospitals.	Slave Island.	Colpetty.	Europeans.	Burghers.	Sinhalese.	Tamils.	Moors.	Malays.	Others.
<i>Diseases of Organs of Generation.</i>																			
Ovarian diseases	...	2	...	...	...	...	...	...	2	...	...	...	...	...	2	...	...	...	...
Diseases of uterms and vagina	...	8	...	...	...	2	2	...	1	...	...	3	...	3	4	...	1	...	...
Pelvic abscess	...	2	...	...	...	...	...	...	2	...	...	2	...	...	2	...	...	...	...
Diseases of testes, penis, scrotum &c.	...	5	...	...	...	...	...	1	4	...	...	...	...	...	3	1	1	...	...
<i>Diseases of parturition.</i>																			
Abortion or miscarriage	...	2	...	...	...	...	...	...	...	...	...	2	...	...	...	1	1	...	...
Puerperal mania	...	1	...	...	1	...	...	...	...	...	...	...	...	...	...	...	1	...	...
Puerperal convulsions	...	6	...	...	2	2	1	1	...	...	...	...	...	...	2	2	1	...	1
Placenta Prævia, flooding	...	4	...	...	...	1	1	...	2	...	...	...	...	...	3	1	...	...	...
Other and undefined accidents of child-birth	...	34	...	1	2	6	4	5	7	2	5	...	...	3	12	4	13	...	2
<i>Diseases of Organs of Locomotion.</i>																			
Caries, Necrosis
Arthritis Ostitis, periostitis	...	1	...	...	...	...	...	...	1	...	...	...	...	...	...	1	...	...	...
Other and undefined diseases of organs of locomotion
<i>Diseases of Integumentary System.</i>																			
Carbuncle	...	3	...	1	1	...	...	1	...	...	...	...	...	...	1	1	1	...	...
Phlegmon, Cellulitis	...	9	...	...	...	1	2	1	3	1	...	1	...	1	6	...	2	...	...
Lupus
Ulcér, bed sore	...	14	...	...	1	...	...	...	12	...	1	...	...	...	6	4	4	...	...
Eczema	...	1	...	...	...	...	...	...	...	1	...	...	...	...	...	...	1	...	...
Pemphigus
Other and undefined diseases of integumentary system	...	10	...	...	...	...	...	1	5	2	2	...	...	...	8	...	1	...	1
<i>Accident or Negligence.</i>																			
Fractures, contusions	...	8	...	...	...	...	1	...	4	1	...	2	1	...	6	1	...	...	...
Gun shot wounds	...	2	...	...	...	...	...	...	2	...	...	...	...	...	2	...	...	...	...
Cut, stab	...	1	...	...	...	...	...	...	...	...	...	1	...	...	1	...	...	...	...
Burn, scald	...	9	...	...	1	...	...	2	4	1	...	1	1	...	6	...	1	1	...
Poison	...	10	...	...	...	...	...	...	9	...	1	...	...	...	4	4	1	1	...
Drowning	...	18	4	...	...	...	7	1	1	3	1	1	...	...	11	4	1	...	2
Snake bite	...	1	...	...	1	...	...	...	...	...	...	...	...	...	1	...	...	...	...
Otherwise	...	25	1	1	...	...	...	...	19	3	...	1	2	...	12	4	3	1	3
<i>Homicide.</i>																			
Murder, Manslaughter	...	14	...	...	...	...	...	...	11	3	...	...	...	...	11	2	1	...	...
<i>Suicide.</i>																			
Gun shot wounds	...	3	...	...	...	...	1	...	1	1	...	...	...	...	3	...	...	...	...
Cut, stab	...	2	...	...	...	...	...	...	2	...	...	...	...	...	1	...	1	...	...
Poison	...	6	...	...	...	2	...	...	2	1	...	1	...	3	1	2	...	...	...
Drowning	...	3	...	...	...	...	1	...	1	1	...	...	...	1	1	1	...	...	...
Hanging	...	7	...	...	...	1	2	...	1	2	...	1	...	...	5	...	2	...	...
Otherwise	...	1	...	...	...	...	...	...	...	...	...	1	...	...	1	...	...	...	...
<i>Execution.</i>																			
Hanging
<i>Ill-defined and not specified causes.</i>																			
General Dropsy	...	47	...	...	...	...	20	3	1	13	4	6	...	1	30	6	8	1	1
Debility	...	380	1	5	20	46	10	42	114	24	75	43	2	14	168	89	77	16	11
Sudden deaths (causes unascertained)
Abscess	...	22	...	...	...	1	3	...	12	3	1	2	1	...	10	5	3	1	2
Tumour	...	9	...	...	...	...	...	...	4	2	3	...	...	1	7	...	1	...	...
Hæmorrhage	...	11	...	...	2	1	...	...	5	1	1	1	1	...	5	1	2	1	1
Other ill-defined and not specified causes	...	17	...	...	...	...	2	...	10	2	1	1	...	2	11	3	...	...	1

TABLE LXX.

Deaths of Males and Females at different age periods for each race in the Colombo Municipality during the year 1908.

AGE AT DEATH.

RACE.	Under 1 one year of age see particulars on state- ment.		UNDER FIVE YEARS.												OVER FIVE YEARS.												TOTAL.						
			1 year and under 2.		2 years & under 3.		3 years & under 4.		4 years & under 5.		5 years & under 10.		10 years & under 15.		15 years & under 20.		20 years & under 25.		25 years & under 35.		35 years & under 45.		45 years & under 55.		55 years & under 65.					65 years & under 75.		75 years & under 85.		85 years & over.
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Persons.	Males.	Females		
Europeans	4	8	1	—	—	—	3	—	1	1	—	—	2	1	6	2	24	8	18	4	8	2	6	2	2	—	2	—	—	—	105	74	31
Burghers	52	49	25	17	13	14	5	4	4	6	4	9	4	9	4	17	18	18	9	8	19	13	9	7	10	5	14	—	6	386	183	203	
Sinhalese	436	396	117	151	78	78	41	52	27	28	86	51	53	58	89	93	179	173	159	99	121	103	68	75	66	51	59	32	51	3312	1697	1615	
Tamils	137	147	26	30	29	25	14	25	4	11	25	25	12	20	76	35	126	61	120	52	58	50	15	31	15	17	20	13	14	1343	804	539	
Moors	152	158	42	49	17	25	10	14	4	7	23	19	21	21	27	25	50	42	38	32	31	37	26	26	23	30	17	21	20	1067	522	545	
Malays	20	34	8	9	4	5	8	1	1	—	10	2	3	7	2	4	7	7	7	8	6	5	2	5	4	2	5	6	4	196	88	108	
Others	20	22	4	4	1	—	1	1	1	1	4	1	1	1	21	9	44	1	23	—	11	3	7	2	10	—	2	—	—	211	160	51	
All races	821	814	223	260	142	147	77	101	41	52	153	102	96	151	225	177	447	310	383	204	243	222	124	159	117	109	117	72	95	6620	3548	72	

TABLE LXXII.

Births and Deaths and their rates for each race in the Town of Colombo for 1907, 1908, and the average for 1898 to 1907.

RACE.	Estimated population to the middle of 1908.	Births.			Deaths.			Birth-rate per mille per annum.			Death-rate per mille per annum.		
		Average, 1898—1907.	1907.	1908.	Average, 1898—1907.	1907.	1908.	Average, 1898—1907.	1907.	1908.	Average, 1898—1907.	1907.	1908.
All races	... 180262	3727	4280	4602	5467	5747	6620	23·2	24·2	25·5	34·0	32·5	36·7
Europeans	... 2,992	81	94	77	81	75	105	29·9	31·7	25·7	29·6	25·3	35·1
Burghers	... 12,732	381	375	434	315	291	386	31·9	29·6	34·1	26·4	23·0	30·3
Sinhalese	... 75,515	2023	2380	2608	2512	2603	3312	29·2	31·7	34·5	36·2	34·7	43·9
Tamils	... 44,535	441	547	562	1285	1395	1343	12·6	12·6	12·6	36·7	32·2	30·2
Moors	... 32,464	619	653	678	949	1002	1067	21·4	20·3	20·9	32·7	31·2	32·9
Malays	... 5,442	125	161	172	163	189	196	27·6	30·2	31·6	36·1	35·5	36·0
Others	.. 6,582	57	70	71	162	192	211	12·2	11·4	10·8	34·5	30·5	32·1

TABLE LXXIII.

Conservancy Branch, Revenue and Expenditure in 1908.

Division.	* Total amount collected.			† Total amount due.			Buckets daily conserved in Private Premises.	Buckets daily conserved in Public Latrines.	Cesspits cleared.			
	Rs.	c.		Rs.	c.				By Conser-vancy Contractor.	By Private Contrac-tors.		
I.	...	31,976 20	...	35,072 20	...	1,521	...	—	...	1	...	1
II.	...	51,675 95	...	58,760 36	...	2,731	...	† 144	...	42	...	19
III.	...	45,872 20	...	47,898 50	...	2,516	...	¶ 25	...	54	...	23
IV.	...	41,603 37	...	38,832 0	...	2,216	...	120	...	32	...	35
Total	...	171,127 72		180,563 6		8,984		289		129		78

* Includes arrears of previous years and advance payments.

† Represents amounts due for the year under reference.

‡ 13 Standard Buckets.

¶ 5 Standard Buckets.

Cost recovered on arrears of Conserrancy dues Rs. 1,665·10.

Amounts paid to Contractor.

(a)	Bulls and Conservancy of Dry-earth closets	.....	Rs. 103,385·87
(b)	On account of clearing Cess-pits	.....	Rs. 2,098·20
	Total	.....	Rs. 105,484· 7

Fines imposed by Chairman on Contractor Rs. 953·30.

TABLE LXXIV.
Conservancy Receipts and Expenditure, 1908.

<i>Receipts.</i>			<i>Expenditure.</i>		
		Rs. c.			Rs. c.
52	By recoveries for conserving latrines	... 171,127 72	To vote No. 69	Salaries, and wages	... 16,295 10
53	By buckets sold	... 249 0	" 70	House allowance	... 480 0
54	By disinfectants sold	... 1 348 49	" 71	Conservancy of dry-earth closets	... 64,891 85
55	By clearing cesspit privies	... 561 79	" 72	Supply of coir dust	... 7,114 28
56	By lease of grass land at night-soil Dépôt...	5,520 0	" 73	Stationery, &c.	... 535 8
	By cost	... 1,665 10	" 74	Refunds	... 211 80
			" 75	Hire of bulls	... 38,888 49
			" 76	Post card reminders and postage	... 180 0
			" 77	Supervisor's Uniforms	... 398 88
			" 78	Cost of disinfectants	... 1,507 1
			" 79	Rent of Night-soil Depot, Narahenpitiya...	... 1,637 50
			" 80	Miscellaneous	... 356 78
			" 81	Transport allowance	... 1,200 0
			" 173	Construction and repairs of Night-soil carts	... 9,778 14
			" 136	Repairs of buildings, (carts and cattle sheds)	... 2,067 72
			" 143	Repairs and maintenance of roads Night-soil Depot	... 3,029 90
			" 174	Septic Tanks	... 10 87
			" 144	Metalling Narahenpitiya road	... 2,502 85
			" 186	Construction of new buckets and sale of standard buckets from stock	... 1,267 87
			" 273	Paving under cattle trough, Night-soil Depot	... 671 38
Total ... 180,472 10			Total ... 153,025 50		

TABLE LXXV.
Fines imposed during the year, 1908.

NATURE OF OFFENCE.

MONTH.		Depôt.	Miscellaneous.	Lids or parts of carts left open whilst at work	Public latrines.	Non reporting of vacations.	Coolies without badges.	Neglect to conserve.	Neglect to clean buckets.	Neglect to supply Coir-dust.	Neglect of Day cooly.	Neglect to return Cart chits.	Late arrival of Carts at Dépôt.	Amount	
														Rs.	c.
January	...	13	16	1	21	—	6	113	86	115	13	6	2	125	44
February	...	1	16	1	14	1	1	142	51	66	15	3	12	103	36
March	...	28	21	21	26	2	—	205	106	110	13	15	10	139	25
April	...	—	17	10	11	5	—	115	63	93	5	28	5	88	0
May	...	—	38	—	5	2	1	139	64	88	14	—	4	88	75
June	...	—	31	—	21	—	—	150	53	98	16	—	1	92	50
July	...	3	14	1	12	4	—	117	9	29	7	1	3	50	0
August	...	1	14	4	14	12	—	89	40	40	4	—	14	85	0
September	...	—	8	1	12	7	—	68	5	24	5	—	9	34	74
October	...	12	29	—	1	3	—	73	10	33	9	22	3	48	75
November	...	19	25	—	4	15	—	64	43	53	11	8	2	61	0
December	...	7	13	3	6	5	—	52	16	28	16	—	—	36	50
Total	...	84	242	42	147	56	8	1327	546	777	128	83	5	953	30

TABLE LXXVI.

Changes in the personnel of the staff (SANITATION BRANCH) Public Health Department, during the year, 1908.

Name.	Post.	Appointment, promotion, transfer, dismissal or resignation.	Date.	Remarks.
Dr. E. R. Loos	Junior Assistant Medical Officer of Health	Appointment.	Oct. 10, 08.	—
Alia Wickremesinghe.	Midwife	Appointment.	April 1, 08.	Succeeded midwife Fernando who resigned.
D. B. Perera	Market-keeper, Dean's Rd.	Sent away with a gratuity	Jan. 13, 08.	Sent on gratuity.
E. L. Herft.	Market-keeper, Dean's Rd.	Promotion	Jan. 13, 08.	Promoted to the post caused by the sending away of D. B. Perera on gratuity
E. V. Mendis	Collector, Grandpass	Appointment.	Feb. 13, 09.	Appointed to the post rendered vacant by the promotion of Mr. Herft.
Mrs. S. Fernando	Midwife	Resigned	Feb. 08.	—
Maloney	M. K., St. John's Market.	Resigned	Dec. 08.	—
K. R. Emran	M. K., Slave Island	Transferred	Dec. 7, 08.	Transferred from Slave Island to St. John's
A. R. Pavee	Sub-overseer, E. Cleaning Gang	Appointment.	July 22, 08.	New post.
M. T. Cassiere	Sub-overseer, E. Cleaning Gang	Appointment.	July 22, 08.	New post.
H. V. Fernando	Sub-overseer, E. Cleaning Gang	Appointment.	July 22, 08.	New post.
J. W. Nelson	Sub-overseer, E. Cleaning Gang	Appointment.	July 22, 08.	New post.

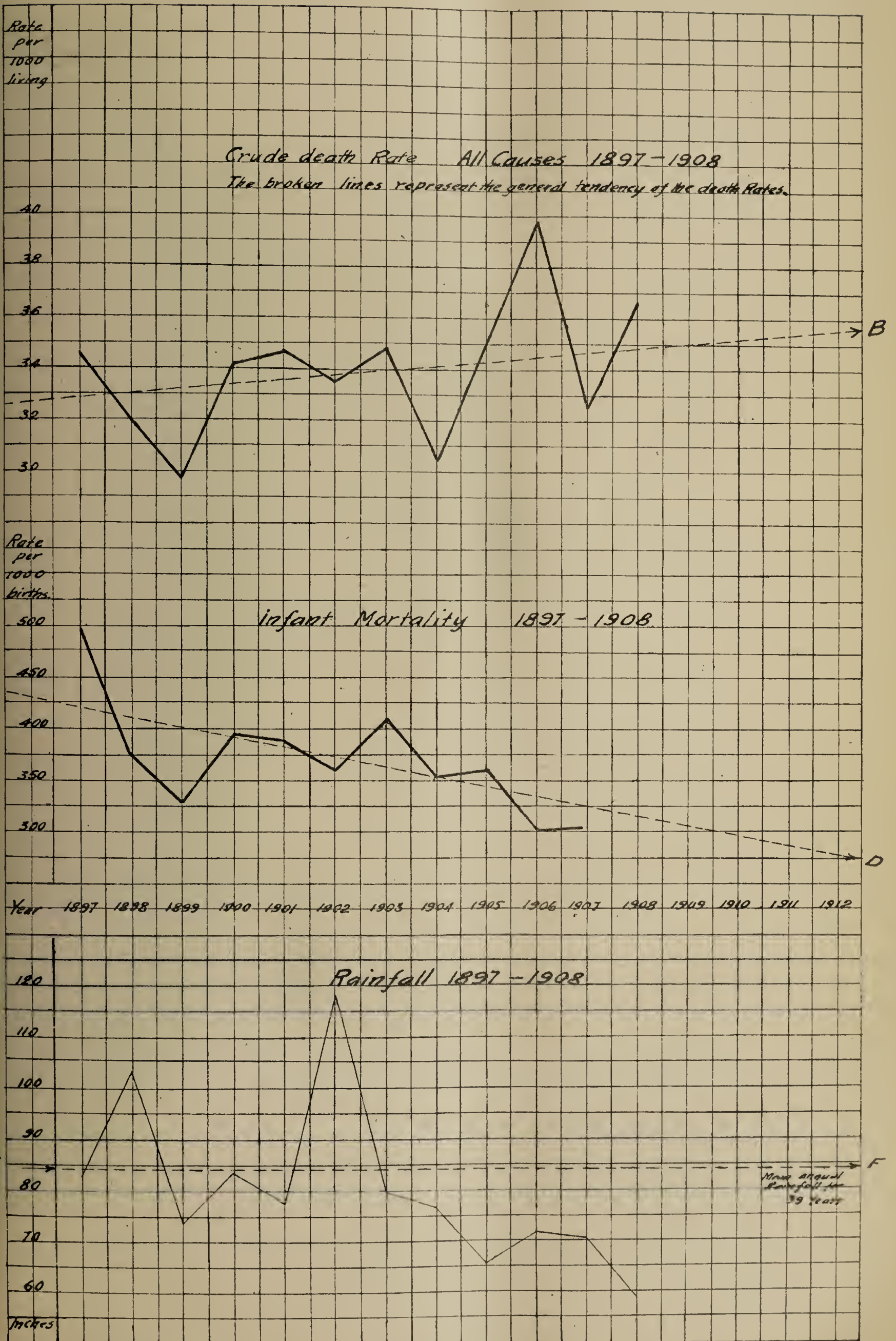
TABLE LXXVII.

Changes in the personnel of the staff (CONSERVANCY BRANCH) Public Health Department, during the year, 1908.

J. W. Rupesinghe	Ledger Clerk	Transferred to Sanitary Branch	Feb. 1, 08.	Transferred to Sanitary Branch in place of Mr. Selvethurai, Market Clerk, who was transferred to Conservancy Branch.
V. Selvethurai	Market Clerk	Transferred to Conservancy Branch	Feb. 1, 08.	In place of Mr. Rupesinghe.
Hector Silva	Clerk	Appointed	July 15, 08.	Additional Clerk.
M. H. De Waas	Assistant Dépôt Overseer.	Dismissed	Oct. 1, 08.	For sending false report.
G. F. Raymond	Assistant Dépôt Overseer.	Appointed	Oct. 1, 08.	Appointed in place of Mr. De Waas dismissed.
G. F. Raymond	Assistant Dépôt Overseer.	Dismissed	Dec. 1, 08.	For sending false report.
D. T. Jayasekera	Ledger Clerk	Promoted	Nov. 11, 08.	Revenue Inspector.
G. De S. Seneviratne	Assistant Dépôt Overseer.	Appointed	Dec. 1, 08.	Appointed in place of Mr. Raymond dismissed.

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Diagram No I.



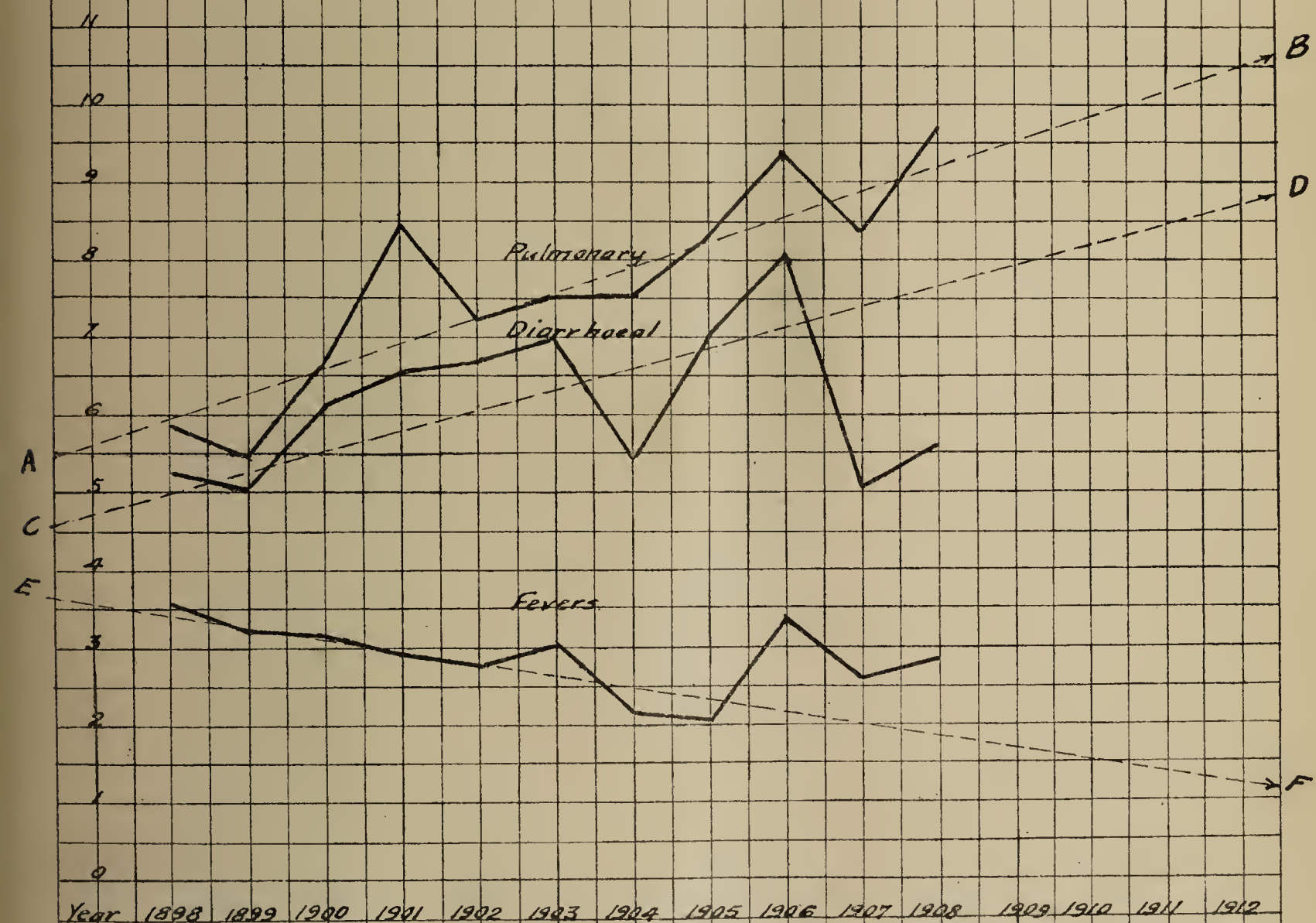


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Diagram No II

Death Rate from Principal Groups of Diseases 1898-1908

The broken lines indicate the general
tendency of the death rates to rise or fall.

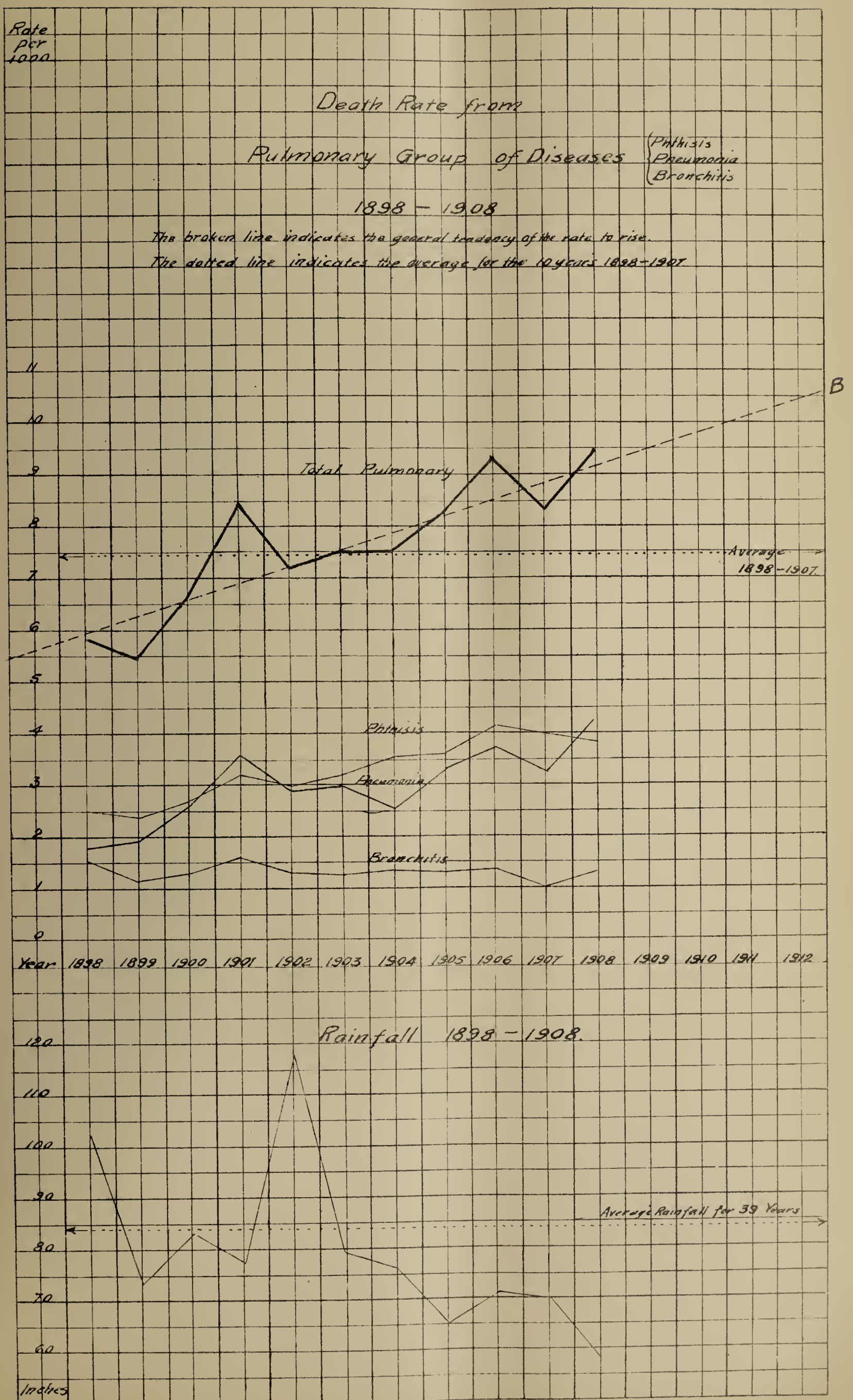


Rain fall 1898-1908



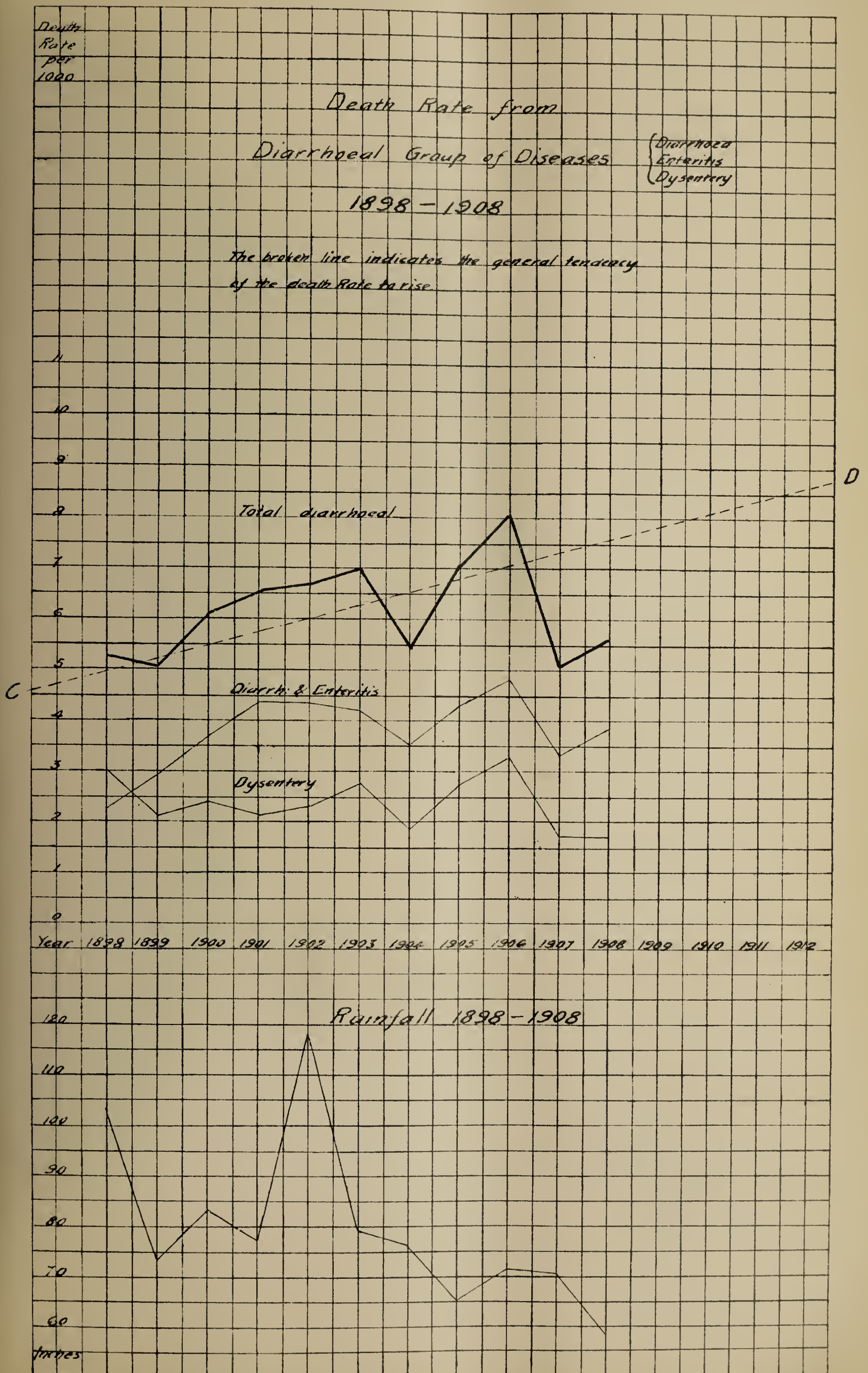
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Diagram N^o III



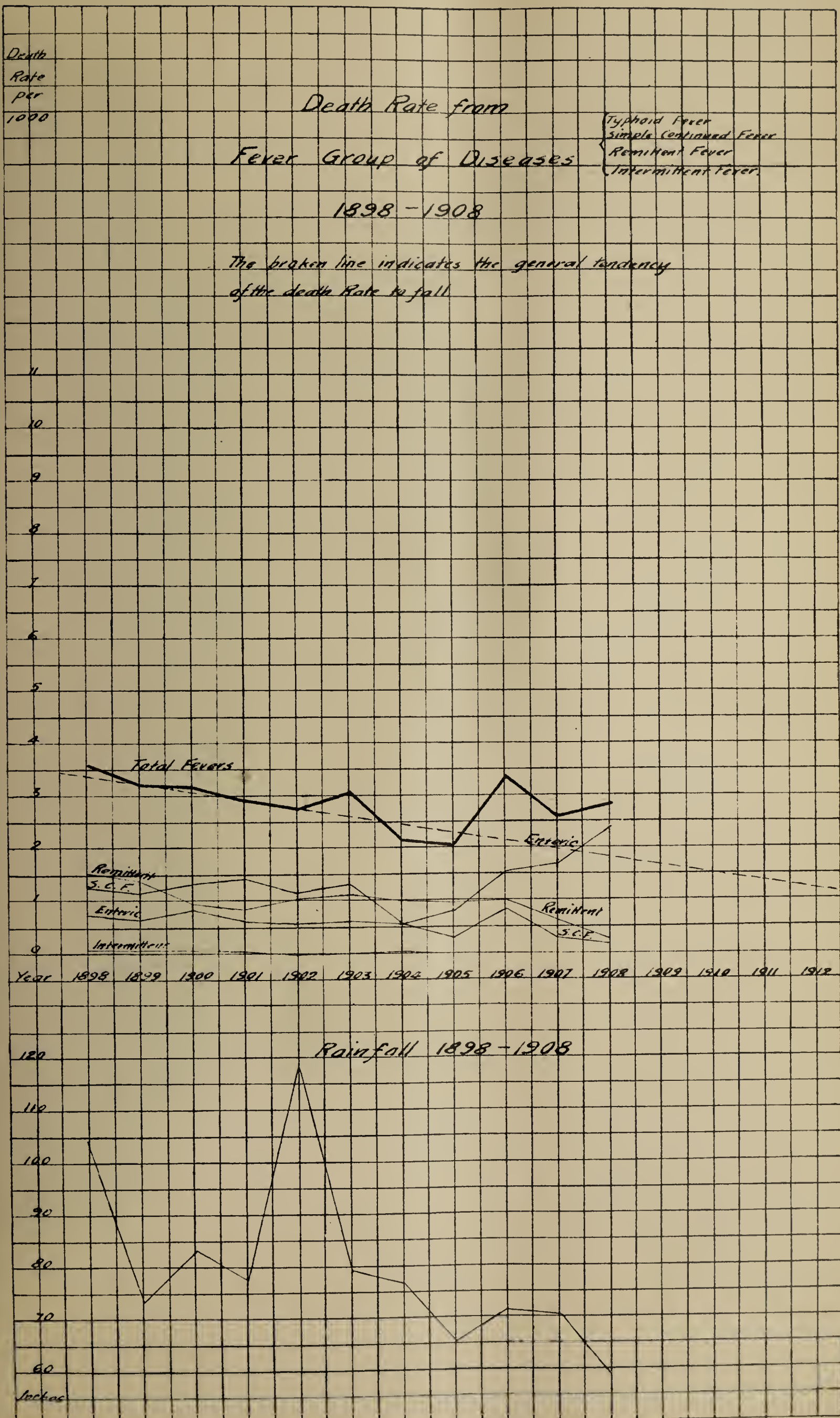
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Diagram No IV



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Diagram No V



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Diagram No VI

